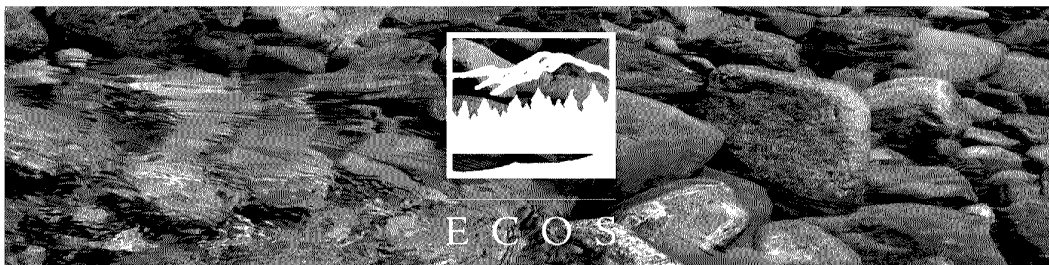


**From:** ECOS  
**To:** Flynn, Mike  
**Sent:** 8/4/2017 7:16:46 PM  
**Subject:** ECOS Explores Lean, Superfund, & Results, Publishes Green Report on Permit Streamlining

ECOSWIRE | Vol. 19 No. 30

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## ECOSWIRE

Friday, August 4, 2017

Vol. 19 No. 30

### Table of Contents

- [States, U.S. EPA Gather in Denver to Talk Lean](#)
- [ECOS Superfund Workgroup Holds Inaugural Call, Seeks More Members](#)
- [ECOS All-Member Webinar Provides Sneak Preview of ECOSResults.org](#)
- [New ECOS Green Report Spotlights State Permit Streamlining](#)
- [ECOS, Other Associations Urge U.S. EPA to Clarify 404 Assumption](#)
- [ECOS Fall Meeting Early Registration Ends Today; Room Block Closes August 9](#)
- [State News You Can Use](#)
- [Member Spotlight](#)
- [Need-to-Know News in Air & Waste](#)
- [Opportunities](#)
- [Upcoming Events](#)

# States, U.S. EPA Gather in Denver to Talk Lean

A group of 42 business process improvement (BPI) leaders representing 16 states and U.S. EPA met this week at EPA's Region 8 offices in Denver to share lessons learned and strengthen ties among environmental agency process improvement professionals. Over the course of the August 1-2 gathering, the group formulated a plan to coordinate their respective initiatives, share results data, and establish a structure for an official national BPI network.

State leaders and EPA Lean Advocates also gained insight from presentations and tours from several Colorado-based innovators including the City of Denver Peak Academy, Colorado Department of Transportation, and Governor's Office Lean team.

ECOS thanks all the states that participated in the meeting: Arizona, Arkansas, California, Colorado, Delaware, Iowa, Minnesota, Montana, New Hampshire, Ohio, Rhode Island, Utah, Vermont, Washington, Wisconsin, and Wyoming. Please contact [Owen McAleer](#) of ECOS for more information on this work.

In related news, the EPA Office of the Inspector General (OIG) this week released a [report](#) finding that the agency "needs to institutionalize its 'Lean' program to reap cost and time benefits." Among OIG's recommendations to the agency was the "development of a cohesive strategy for leading, implementing, and monitoring the Lean initiative." Last month, EPA named former ECOS member Henry Darwin of Arizona as Assistant Deputy Administrator and Chief Operating Officer with the charge of implementing a Lean management system to achieve better results for the agency. Darwin will participate in an ECOS Fall Meeting roundtable on *Inspiring Innovation and a Change-Oriented Culture* alongside his Arizona successor, Misael Cabrera, and other states. [McAleer]



State leaders at the Lean Meeting in Denver.

## **ECOS Superfund Workgroup Holds Inaugural Call, Seeks More Members**

### ***Senate Hearing Focuses on Superfund Modernization***

A new ECOS Superfund Workgroup on July 31 held its inaugural call to chart a cooperative federalism course in implementing the recent recommendations of the U.S. EPA Superfund Task Force recommendations (see July 28 edition of *ECOSWIRE*). Led by ECOS Waste Committee Chair Scott Thompson of Oklahoma, the workgroup will hold monthly calls to maximize state-federal cooperation in implementing the federal recommendations. Task force Chair Kell Kelly, Senior Advisor to the EPA Administrator, will participate in the workgroup along with other EPA officials and leaders of the Association of Solid Waste Management Officials (ASTSWMO).

On the call, ECOS members expressed support for the overarching goals of the recommendations to accelerate and improve cleanups and said states want to be an integral part of achieving them. Members pointed to a need to be involved upfront in issues like remedy selection and to find ways to avoid duplication of effort and contain costs to states.

In August 1 [testimony](#) before a Senate Environment & Public Works subcommittee, former ASTSWMO President Jeffery Steers echoed these sentiments, pointing to an opportunity

to modernize certain aspects of Superfund law to acknowledge the role of states as co-regulators who operate sophisticated programs across the country. “Our members, and to some extent our regulated community, continue to be challenged with the skyrocketing financial obligations associated with remediating contaminated lands,” Steers said.

Steers also pointed to ECOS’ *Cooperative Federalism 2.0* effort during the question-and-answer period. C-SPAN’s video coverage of the hearing is available [here](#).

If you are interested in participating in the new ECOS workgroup, or have written comments or suggested call topics to share, please contact [Lia Parisien](#) of ECOS. [Parisien/Harrison]

## **ECOS All-Member Webinar Provides Sneak Preview of ECOSResults.org**

ECOS convened an All-Member Webinar on August 1 to provide an update on the ECOS Results Project and a first glimpse at preliminary infographics and site designs of ECOSResults.org. An adaptable and engaging website, ECOSResults.org will use charts, graphs, and other data displays to show the progress states are making to protect human health and the environment.

Under the leadership of ECOS President John Linc Stine of Minnesota and Past President Martha Rudolph of Colorado, ECOS launched the project in 2016 to identify common environmental, economic, and public health progress measures for all states to use. Fourteen common measures were selected in early 2017 following a robust state-led process through the ECOS Planning Committee, in coordination with the state environmental media associations.

ECOS members on the call were supportive of the design preview. Stay tuned for a demo of ECOSResults.org at the ECOS Fall Meeting. If you have any questions about the project, please contact [Sonia Altieri](#) or [Connor MacCartney](#) of ECOS. [Altieri]

## **New ECOS *Green Report* Spotlights State Permit Streamlining**

In an effort to showcase state innovations in permitting processes, ECOS has prepared a *Green Report* on permit streamlining efforts.

The report, titled *Streamlining Permitting: An Inventory of State Environmental Agency Online Tools and Resources*, provides details of initiatives as they appear on the websites of state environmental agencies. [Harrison]



# ECOS, Other Associations Urge U.S. EPA to Clarify 404 Assumption

This week ECOS and the Association of Clean Water Administrators and Association of State Wetland Managers sent a [letter](#) to U.S. EPA's Office of Water encouraging the agency to adopt the majority recommendations included in the final report of the Assumable Waters Subcommittee and undertake an effort to clarify Section 404(g), either through guidance or rulemaking.

The letter expresses appreciation for the agency's response to state requests to clarify the 404 assumption process, and says "many states already play a major role in implementation of dredge and fill regulations, and that combined state-federal programs provide effective, efficient, resilient, protective, and stable regulation in accordance with Section 404 of the Clean Water Act." [Piper]

## ECOS Fall Meeting Early Registration Ends Today; Room Block Closes August 9

Early registration closes today for ECOS' action-packed 2017 Fall Meeting in Jackson Hole, Wyoming on *Bright Ideas: States Leading the Way*. The interactive program ties together a number of cutting-edge ECOS initiatives of interest to a variety of stakeholders. Among the highlights, ECOS will feature outstanding programs selected for 2017 State Program Innovation Awards, unveil a new dashboard that states can use to better protect human health and the environment, and explore early wins in its Cooperative Federalism 2.0 campaign to forge an improved state-U.S. EPA partnership.

Confirmed keynoters are Wyoming Governor Matt Mead and former ECOS member Collin O'Mara (Delaware), now President & CEO of the National Wildlife Federation. Attendees also will be welcomed to the meeting by David Vela, Superintendent of Grand Teton National Park. U.S. EPA officials already confirmed to attend are Assistant Deputy Administrator & Chief of Operations Henry Darwin, Senior Advisor to the Administrator for Regional & State Affairs Ken Wagner, and Acting Deputy Administrator Mike Flynn. Sure to be a highlight of the meeting is an evening excursion to Grand Teton National Park.

The public portion of the Fall Meeting runs September 11 and 12, with **states-only sessions planned until 11:15 a.m. on September 13**. These discussions will be followed by the E-Enterprise for the Environmental Leadership Council Meeting on the afternoon of September 13 and morning of September 14 until 11:30 a.m. The special ECOS group rates at Snow King Resort are available until **August 9** or sellout of the room block, whichever is sooner.

See the Fall Meeting [website](#) for the agenda, online registration, hotel reservation link, hotel overflow suggestions, ground transportation options, and area attractions. For more

information about the agenda, sponsorship opportunities, or the hotel, contact [Lia Parisien](#) of ECOS. For additional registration information, contact [Sarah Grace Longworth](#) of ECOS. [Parisien]

## State News You Can Use

[New York YouTube Series Features DEC Staff and Their Work](#)

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[Pennsylvania Develops App for O&G Inspections, Nominated for National Award](#)

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[Tennessee Digitizes Septic System Cords for Public](#)

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[Missouri Offers Compliance Assistance Visits](#)

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[Rhode Island Offers \\$4 Million to Help Communities Protect Open Space](#)

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[Utah Voluntary Cleanup Program Promotes Streamlined Process](#)

## Member Spotlight

**Two Minutes with Julie Moore, Secretary,  
Vermont Agency of Natural Resources**



**How long have you been Secretary of the Vermont Agency of Natural Resources?  
What's your best experience thus far?**

I was appointed by Governor Phil Scott in January 2017. My best experience thus far been the opportunity to learn from the amazing scientists and practitioners who work on the incredible diversity of issues ANR is tasked with – everything from cumulative contaminant risk to groundwater as a public trust to forest fragmentation and even endangered mussels!

**How has being a member of ECOS benefited you?**

ECOS provides the opportunity to meet my counterparts in other states. Still feeling quite new to the job, there is so much value in having a network of peers who are very generous with their time and sharing their experience.

**What is the best management advice you've received?**

"Play it straight." Ultimately, people – whether staff, advocates, or the public – appreciate direct, concise, honest answers, including saying "I don't know" when you don't know.

[CONTINUED HERE](#)

## **Need-to-Know News in Air & Waste**

### **U.S. EPA Withdraws Extension for 2015 Ozone NAAQS Designations**

*Area of Focus: [Air](#)*

On August 2, [U.S. EPA withdrew the 1-year extension of the deadline for promulgating initial area designations for the 2015 Ozone National Ambient Air Quality Standards \(NAAQS\) published in the June 28 Federal Register.](#) Through discussions with states concerning designations, EPA now understands that the information gaps that formed the basis of the extension may not be as expansive as the agency previously believed. There may be areas where designations could move forward in the next few months. Publication of this action in the *Federal Register* is expected within the next couple of weeks.

The action comes a day after several states filed a [petition for review](#) in the U.S. Court of Appeals for the DC Circuit. New York, California, Connecticut, the District of Columbia, Delaware, Illinois, Iowa, Maine, Massachusetts, Minnesota, New Mexico, Oregon, Rhode Island, Pennsylvania, Vermont, and Washington are asking the U.S. Court of Appeals to review EPA's decision to extend the deadline for promulgating initial area designations for the 2015 ozone NAAQS.

While not referencing the lawsuit directly, EPA Administrator Scott Pruitt notes in an August 2 [press release](#), "Under previous Administrations, EPA would often fail to meet designation deadlines, and then wait to be sued by activist groups and others, agreeing in a settlement to set schedules for designation. We do not believe in regulation through litigation, and we take deadlines seriously." He adds, "We believe in dialogue with, and being responsive to, our state partners. Today's action reinforces our commitment to working with the states through the complex designation process." [Poole]

## **U.S. EPA 2017 Air Trends Report Shows Significant Progress**

*Area of Focus: [Air](#)*

On August 2, U.S. EPA released its annual air trends report titled [Our Nation's Air: Status and Trends Through 2016](#) that shows significant air quality strides during a time of economic growth.

Reporting that that this progress often is overlooked, EPA points to the Association of Air Pollution Control Administrators' report [The Greatest Story Seldom Told](#), which explains that "[t]hrough the Clean Air Act's framework of cooperative federalism, hard-working state and local air agencies have been responsible for tremendous progress in virtually every measure of air quality."

The report shows that between 1990 and 2016, national concentration averages of harmful air pollutants decreased considerably, with:

- Lead (3-month average) down 99 percent;
- Carbon monoxide (8-hour) down 77 percent;
- Sulfur dioxide (1-hour) down 85 percent;
- Nitrogen dioxide (annual) down 56 percent;
- Ground-level ozone (8-hour) down 22 percent;
- Coarse Particulate Matter (24-hour) down 39 percent; and
- Fine Particulate Matter (24-hour) down 44 percent.

However, EPA Administrator Scott Pruitt does note, "Despite this success, there is more work to be done. Nearly 40 percent of Americans are still living in areas classified as 'nonattainment' for failing to achieve national standards. EPA will continue to work with states, tribes, and local air agencies to help more areas of the country come into compliance."

See more information [here](#). [Poole]

## **U.S. EPA Tests New Smoke Sense App to Educate Public and Gather Information**

*Area of Focus:* Air

U.S. EPA has released a new smartphone app that will help develop risk communication strategies and determine the extent that exposure to wildland fire smoke affects health and productivity. The Smoke Sense app, currently available only for Android phones, allows individuals to learn about wildfires and smoke health risks in their area, report their health symptoms, and report the range of actions they are willing to take to reduce their exposure. The app provides users current and forecasted air quality by zip code and a map showing current fires and smoke plumes. More information about the app and the research it supports is available [here](#).

With the nation in the midst of wildfire season and wildfire smoke triggering air pollution advisories, states may want to review information in Wildfire Smoke: A Guide for Public Health Officials to help prepare for and address wildfire smoke events. [Hanson]

## **U.S. EPA Adds Superfund Sites to National Priorities List**

*Area of Focus:* Waste

U.S. EPA announced July 31 that it is adding seven, and proposing to add four, hazardous waste sites to the Superfund program's National Priorities List (NPL). Superfund law directs EPA to update the NPL annually, and only sites added to the NPL are eligible to receive federal funding for long-term permanent cleanup.

"My goal as Administrator is to restore the Superfund program to its rightful place at the center of the agency's core mission," said EPA Administrator Scott Pruitt. "When we clean up these sites, we make communities healthier places to live and clear the way for development and increased economic activity."

The following sites are being added to the final NPL:

- The Battery Recycling Company in Bo. Cambalache, Puerto Rico
- Former Custom Cleaners in Memphis, Tennessee
- Highway 18 Ground Water in Kermit, Texas
- Microfab Inc. in Amesbury, Massachusetts
- Old Highway 275 and N. 288th Street in Valley, Nebraska
- Post and Lumber Preserving Co. Inc. in Quincy, Florida
- Saint-Gobain Performance Plastics in Village of Hoosick Falls, New York

The following sites are being proposed for addition to the NPL:

- Newark South Ground Water Plume in Newark, Delaware
- American Creosote DeRidder in DeRidder, Louisiana
- Mississippi Phosphate Corporation in Pascagoula, Mississippi
- Eagle Industries in Oklahoma City, Oklahoma

*Federal Register* notices and supporting documents for the final and proposed sites are [here](#). [Parisien]

## Opportunities

### U.S. EPA Seeks State Officials for Local Government/Small Community Advisory Committees

U.S. EPA seeks local, state, and tribal elected and appointed officials for its Local Government Advisory Committee (LGAC) and the Small Community Advisory Committee (SCAC). The LGAC provides advice on the development and implementation of agency programs at the local level, while SCAC members serve to represent communities of under 10,000. Applications are due **August 10** for consideration for September 2017 appointments to 1-2 year terms.

The full solicitation is available [here](#). [Parisien]

## Upcoming Events

### Calls

#### PFAS Workgroup

ECOS and U.S. EPA's joint PFAS Workgroup will host a bimonthly call for interested state and EPA partners on **August 7 at 4-5 p.m. Eastern**. The purpose of the call is to share information on PFAS work, including analytical methods, toxicity, and treatment. Monday's call will feature a discussion of EPA's cross-agency coordination of PFAS activities from the agency's Office of Research and Development (ORD) Acting Assistant Administrator Bob Kavlock, as well as an update on the EPA's PFAS Analytical Methods Workgroup from Co-Chairs Cindy Caporale of Region 3, Schatzi Fitz-James of the Office of Land and Emergency Management, and Chris Impellitteri of ORD. States will also have time to share and discuss their PFAS updates.

Please pre-register for the call by contacting [Sarah Grace Longworth](#) of ECOS with questions or for a copy of the workgroup's May call summary. [Longworth]

## Webinars

### ECOS and U.S. EPA on Compliance Research Part 2

Jodi Short of the University of California Hastings College of Law will present “Monitoring: A Review of Research on Inspection and Compliance for Regulators” on **August 9 at 3-4:30 p.m. Eastern**. The research highlights what is known about the way monitoring practices can drive – or undermine – compliance.

The Compliance Research Webinar Series, hosted by EPA OECA's NETI and designed for ECOS, U.S. EPA, and state environmental agencies, will help program administrators understand how collaboration with academics can identify effective and measureable approaches to compliance. In each of the webinars, social and behavioral scientists from top universities will present research findings on compliance monitoring, rule and permit design, reporting and transparency, and innovative enforcement. Following the presentations, participants will discuss program initiatives that can be put to the test through collaboration with academics.

Additional webinars will be held as follows:

- Rule and Permit Design – **September 28, 2-3:30 p.m. Eastern**
- Reporting and Transparency – **October 24, 2-3:30 p.m. Eastern**
- Innovative Enforcement – **November (TBD)**

For more information, please contact Sonia Altieri at [saltieri@ecos.org](mailto:saltieri@ecos.org). [Altieri]

### ITRC on Long-Term Contaminant Management Using Institutional Controls

On **August 14 at 1-3:15 p.m. Eastern**, ITRC will host an online training on Long-Term Contaminant Management Using Institution Controls (ICs).

ICs are administrative or legal restrictions that provide protection from exposure to contaminants on a site. When ICs are jeopardized or fail, direct exposure to human health and the environment can occur. After attending this training, participants will be able to describe best practices and evolving trends for IC management at individual sites and across state agency programs, improve IC reliability and prevent IC failures, and improve existing, or develop new IC management programs.

Learn more and register [here](#). [Bodi]

### U.S. EPA on Water Finance Clearinghouse

U.S. EPA, through the [Water Infrastructure and Resiliency Finance Center](#), this week launched the [Water Finance Clearinghouse](#), a web-based portal to help communities make

informed financing decisions for their drinking water, wastewater, and stormwater infrastructure needs. The Clearinghouse contains a database with more than \$10 billion in water funding sources and more than 550 resources to support local water infrastructure projects. The clearinghouse follows a crowdsourcing model and can be updated in real time based on suggestions from states, federal agencies, and other water sector stakeholders through the Contributor Portal.

States can [register](#) for webinars on how to use the Clearinghouse on **August 14, 18, 24, and 31**. All webinars will be held at **2-3 p.m. Eastern**. [Piper]

## **U.S. EPA on CROMERR Shared Services**

EPA's Office of Environmental Information will hold an open call on its Shared Cross-Media Electronic Reporting Rule (CROMERR) Services (SCS) as a follow-up to the webinar held in May. Over the past couple of years, EPA has assisted co-regulators in implementing electronic reporting programs by developing and managing CROMERR- compliant services centrally and offering these services to co-regulators as needed to reduce time and money from developing and maintaining these services independently.

This webinar will be held on **August 16 at 2 p.m. Eastern**. U.S. EPA will present the latest enhancements and alternatives available to co-regulators and discuss the processes, roles, and resource requirements for integrating and managing SCS. Existing SCS implementers and those planning to implement new electronic reporting programs in their agencies may be interested in attending.

To register, click [here](#). [Ortiz/Parisien]

## **U.S. EPA on ECHO Training**

Join the [Enforcement and Compliance History Online](#) (ECHO) team for another quarterly training webinar. This webinar will focus on water facility search tools including the water facility search, effluent charts, and the pollutant loading tool.

The webinar will be held on **August 22 at 1:30 p.m. Eastern**, and registration is available [here](#). It will be recorded for the [training page](#) if this time conflicts with your schedule. [Piper]

## **EPA Tools and Resources Webinar**

U.S. EPA will hold its monthly Tools and Resources Webinar on **August 23 at 3-4 p.m. Eastern**. The webinar will highlight the National Stormwater Calculator (SWC), which supports local, state, and national stormwater management objectives and regulatory efforts to reduce runoff and impairment through infiltration and retention using green infrastructure practices as low impact development controls. The primary focus of the SWC is to inform site developers as to how well they can meet a desired stormwater retention



target with and without the use of green infrastructure. While the SWC currently operates only as a Windows-based desktop program, a mobile application version compatible with all operating systems will be released this fall.

To join the webinar, register [here](#). [Longsworth]

## U.S. EPA on Water Issues

U.S. EPA has two ongoing webinar series addressing clean water and small water systems. The Office of Research and Development (ORD) hosts a series on [water research](#), with the following monthly webinars scheduled:

- **August 30** - Nutrients: Weatherizing, Salinization, and Evolution of Urban Water
- **October 25** - Life Cycle Assessment as a Decision Support Tool

More information on the water research webinar series, including how to register, is available [here](#).

In addition, ORD and the Office of Water host a monthly [webinar series on small drinking water systems](#). Their schedule for the rest of the year is:

- **August 29** - Treatment and Control for Manganese and Iron
- **September 26** - Small Systems Research DeRISK Center
- **October 31** - State Acceptance of UV Disinfection Technologies
- **November 28** - Lead in Schools and Selecting Lead Free Fixtures
- **December 12** - Residual Chlorine and Calibration Check for Chlorine Instruments

More information on the small systems webinars, including recordings of past webinars and how to register, is available [here](#). [Hanson]



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Sent: Fri 3/31/2017 4:43:08 PM  
Importance: Normal  
Subject: States Respond to Sweeping Climate Order, White House Sends Congress \$247M in FY17 U.S. EPA Cuts, & More  
Received: Fri 3/31/2017 4:44:13 PM

ECOSWIRE || Vol. 19 No. 13

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# ECOSWIRE

Friday, March 31, 2017

Vol. 19 No. 13

## Table of Contents

- [President Trump Signs Sweeping Order to Launch Review of CPP & Other Rules](#)
- [Georgetown Climate Center Tracks State Response to Executive Order](#)
- [White House Sends FY17 Budget Request to Congress with \\$247M in U.S. EPA Cuts](#)
- [House Hears Benefits of Brownfields Reauthorization](#)
- [House Passes Bill Barring U.S. EPA from Using Science Not Publicly Available](#)
- [ECOS Seeks States to Pilot ECOS Measures Project](#)
- [ECOS Wants to Hear about State Plans for Earth Day Festivities](#)
- [State News You Can Use](#)
- [Need to Know News in Emerging Contaminants & ITRC](#)
- [Upcoming Events](#)
- [ECOSWIRE Notes](#)

## President Trump Signs Sweeping Order to Launch Review of CPP & Other Rules

On March 27, President Trump signed a wide-ranging [Executive Order \(EO\) on Promoting Energy Independence and Economic Growth](#) (EO). The EO directs federal agencies to: take appropriate actions to promote clean air and clean water while respecting the “proper roles” of the Congress and the states; reassess all regulations and take the necessary steps to modify or rescind any rules that place an undue burden on the power sector; and suspend, revise, or rescind the Clean Power Plan (CPP) and other U.S. EPA and U.S. Department of Interior rules following agency review. The order also revokes a number of EOs signed by former President Obama; ends the requirement that federal agencies consider climate

change risks to their missions, programs, and facilities; directs the Council on Environmental Quality to rescind its guidance on incorporating climate change analysis into National Environmental Policy Act reviews; disbands the Interagency Working Group on the Social Cost of Greenhouse Gases, rescinds the federal government's "social cost of carbon" metric; and lifts moratoria on coal leases on federal lands.

While there is a great deal of information in the EO, the portion covering reconsideration of the CPP has garnered much of the initial attention. As with any final rule, U.S. EPA must follow the [Congressional Review Act](#) in its review, which requires the agency to complete a formal rulemaking and address facts already in the administrative record.

Legal challenges to the outcome of this process are likely. Led by the New York Attorney General, the Attorneys General of California, Connecticut, Delaware, Hawaii, Illinois, Iowa, Maine, Maryland, Massachusetts, Minnesota, New Mexico, Oregon, Rhode Island, Vermont, Virginia, Washington, and the District of Columbia this week issued a [press release](#) vowing to "protect those we serve" in regards to the threats of climate change. Colorado and Pennsylvania leaders also have issued statements in opposition to the EO.

As pointed out in the EO, the U.S. Department of Justice has petitioned the U.S. Court of Appeals for the D.C. Circuit to hold in abeyance its review of the CPP (*West Virginia v. EPA*, D.C. Cir., No. 15-1363, *motion filed* 3/28/17) while the new leadership at EPA reviews it. CPP supporters are expected to file formal opposition to DOJ's request to halt the litigation late next week.

However, in a [letter](#) to Governors on March 30, EPA Administrator Scott Pruitt reiterated that states are not "required nor expected" to comply with the CPP. While this does not change the regular course of business pending the Supreme Court stay of the CPP, Administrator Pruitt did go on to say, "To the extent any deadlines become relevant in the future, case law and past practice of EPA supports the application of day-to-day tolling." He added, "The days of coercive federalism are over." [Poole]

## Georgetown Climate Center Tracks State Response to Executive Order

Following President Trump's signing of this week's Executive Order (see related story), the Georgetown Climate Center created a database to track state responses. While many states are supportive of the EO, there are also Governors who have pledged to continue moving forward in the realm of climate change adaptation and clean energy exploration.

To track the diverse state responses, visit the [Georgetown Climate Center's webpage](#). [Poole]

## White House Sends FY17 Budget Request to Congress with \$247M in U.S. EPA Cuts

As Congress prepares to negotiate funding by April 28 for the remainder of FY17, the White House Office of Management and Budget (OMB) sent a [memo](#) on Friday to lawmakers proposing that cuts be taken from several agencies under the upcoming FY17 appropriations bill. Cuts are proposed from five U.S. EPA programs: Categorical Grants (\$115M /10%), Office of Research and Development (\$48M), Brownfields Project Grants (\$5M), Great Lakes Programs (\$49M), and Superfund Remedial (\$30M). The memo describes some EPA cuts intended to "ease" the affected programs into larger

reductions for FY18.

The cuts from EPA and other agencies offset proposed funding increases in Defense and Homeland Security, including increases to fund the construction of a southern border wall. The OMB proposal likely will meet resistance on the Hill due to its inconsistency with budget caps imposed by a 2015 spending agreement.

Amid the White House's recent budget activity, states have expressed concern over cuts that would affect delegated programs. On March 30, the National Governors' Association sent a [letter](#) to congressional leaders to this effect. Earlier this month, ECOS President John Linc Stine of Minnesota and ECOS staff met with House and Senate appropriations staff to discuss the status of the EPA budget for FY17. [McAleer]

## House Hears Benefits of Brownfields Reauthorization

The U.S. House Subcommittee on Water Resources and Environment, chaired by Rep. Garret Graves (R-LA), held a hearing March 28 on a revitalizing American communities through the Brownfields Program.

With new legislation to reauthorize Brownfields expected soon, the subcommittee was especially interested to hear about the benefits of Brownfields programs in communities across the nation, both urban and rural, as well as key areas of focus for future legislation. Rep. Graves questioned participants about the private-public partnerships that are created through Brownfields programs, while Ranking Member Grace Napolitano (D-CA) asked how an increase in funding could drive positive outcomes.

Amanda LeFevre, Outreach and Education Coordinator at the Kentucky Brownfield Redevelopment Program, speaking on behalf of the Association of State and Territorial Solid Waste Management Officials, highlighted the small town resources offered through 128(a) program funding. The support of local community officials in the preparation of grant applications and the workshops provided for organizations, communities, and others are among the important benefits of this funding, LeFevre noted.

On April 4, the House Subcommittee on Environment and the Economy will hold a hearing on Brownfields Reauthorization at which former ECOS President Robert Martineau, Commissioner of the Tennessee Department of Environment and Conservation, will testify on behalf of ECOS. More information on that hearing can be found [here](#). [MacCartney]

## House Passes Bill Barring U.S. EPA from Using Science Not Publicly Available

On March 29, the House of Representatives passed the Honest and Open New EPA Science Treatment Act (HONEST Act) by a vote of 228-194. The bill, one of many recent efforts aimed at reining in government regulations, prohibits U.S. EPA from writing any rule that uses scientific studies and data not publicly available.

The White House and congressional Republicans believe the bill will ensure sound science and reduce regulatory costs, whereas congressional Democrats assert that the HONEST Act will leave EPA unable to implement important regulatory protections because the agency might not be allowed to release some data underpinning them.

The bill, similar to the Secret Science Act passed in previous Congresses, also requires that scientific studies be replicable and that redacted personal or trade information in data be viewable to those who sign confidentiality agreements.

[Longworth]

## ECOS Seeks States to Pilot ECOS Measures Project

The ECOS Measures Project, launched in 2016, is creating a dashboard that states can use to better communicate to the public their efforts to protect human health and the environment. This will be a web-based tool, not inviting comparison by state, but allowing each state to graphically tell its story using common measures which have been selected through a robust state-led process through ECOS' Planning Committee and in coordination with AAPCA, NACAA, ASTSWMO, ACWA, and ASDWA.

ECOS Planning Committee Vice Chair Bill Ehm of Iowa will provide an update on the project next week at the ECOS Spring Meeting. ECOS currently is recruiting 15 states to be pilots for this effort. States that have already agreed to be pilots are Arkansas, Colorado, Hawaii, Iowa, Nebraska, Tennessee, Virginia, and Wyoming.

States interested in piloting the project are who would like more information are asked to please email [Connor MacCartney](#) of ECOS. [Altieri]

## ECOS Wants to Hear about State Plans for Earth Day Festivities

How is your state celebrating Earth Day? If your agency is hosting an event, advertising environmentally friendly practices on social media, or promoting the day in another way, ECOS wants to hear about it.

This year, ECOS is compiling a list of the "Top 10" state Earth Day initiatives. Please send information on efforts that your state has underway for Earth Day **by April 14** to [Sarah Grace Longworth](#) of ECOS. [Longworth]

### State News You Can Use

[Ohio Approves First-of-its-Kind Wetlands Pilot](#)

[Mississippi Set to Issue Daily Ozone Forecasts](#)

## Need to Know News in Emerging Contaminants & ITRC

ECOS Holds TSCA Workgroup Call on DoD's Emerging Contaminants Program and Thermostat Recycling



ECOS on March 30 held its monthly Toxic Substances Reduction Workgroup call. The Department of Defense's (DoD) Dr. Tricia Underood, Deputy for Chemical and Material Risk Management in the Office of the Deputy Assistant Secretary of Defense, first shared a presentation on DoD's Emerging Contaminants Program. She detailed DoD's start to the program, which included collaboration with ECOS on three White Papers, and described how science experts identify chemicals of potential risk to the Army and public.

Ryan Kiscaden, Executive Director of the Thermostat Recycling Corporation, then presented on the organization's efforts to gather old mercury thermostats for safe recycling.

For links to the White Papers or both PowerPoint presentations, or if you would like to participate in the workgroup, please contact [Sarah Grace Longworth](#) of ECOS. [Longworth]

## ITRC

Interstate Technology and Regulatory Council

### ITRC Wraps up Well-Attended Annual Meeting

The ITRC this week held its Annual Meeting in New Orleans with more than 400 attendees representing all 50 states, federal government, industry, tribes, and public stakeholders. Participants attended nine technical team working sessions and an awards ceremony, and heard from two accomplished plenary speakers.

Plenary presentations were delivered by Louisiana Department of Environmental Quality Secretary Chuck Carr Brown, who discussed environmental justice in his state, and sustainable architect David Waggonner, who spoke about stormwater efforts in the city of New Orleans and around the world. The plenary concluded with the presentation of the first ITRC Lifetime Achievement Award given to Tom Schneider of Ohio EPA.

ITRC congratulates all of its award winners and thanks everyone who attended the Annual Meeting! Check back on the [ITRC website](#) for photos, an attendee list, and more information. [Bodi/Reyes]

## Upcoming Events

### ECOS Meetings

#### 255 Attendees, 45 States Set to Meet with Pruitt, Barrasso, and Others at Spring Meeting

A final agenda is now posted for ECOS' action-packed 2017 Spring Meeting on *New Administration, New Congress: States' Path Ahead*. Registration for the April 6-7 public gathering stands at 255 attendees, with some 45 ECOS member agencies represented.

Highlights of the April 6-7 public gathering will include keynotes by Misael Cabrera of Arizona on building a change-receptive organization and by U.S. EPA Administrator Scott Pruitt and Senate Environment & Public Works Committee Chairman John

Barrasso of Wyoming on their respective priorities. Also planned is a roundtable with former EPA Acting Administrator Robert Perciasepe and former EPA Assistant Administrator for Air & Radiation Jeffrey R. Holmstead on the outlook for the agency. Additional discussions will center on produced water from shale gas production, environmental infrastructure, the energy future, the Volkswagen settlement, community engagement, Sustainable Materials Management, and compliance improvement.

The ECOS room block at the Mayflower Hotel is closed, but government rates may be available. Please contact [Sarah Grace Longsworth](#) of ECOS if you plan to cancel a room at the hotel so that we can accommodate the next person on our waiting list.

Access the final agenda, online registration, and hotel information [here](#). [Parisien]

## Webinars

### ITRC on Groundwater Statistics for Environmental Project Managers

Statistical techniques may be used throughout the process of cleaning up contaminated groundwater, but it can be challenging for practitioners who are not experts in statistics to interpret and use statistical techniques. This training class will encourage and support project managers and others who are not statisticians to:

- Use the ITRC Technical and Regulatory Web-based Guidance on Groundwater Statistics and Monitoring Compliance to make better decisions for projects;
- Apply key aspects of the statistical approach to groundwater data; and
- Answer common questions on background, compliance, trend analysis, and monitoring optimization.

Join ITRC on **April 6 at 1-3:15 p.m. Eastern** for this essential online training! Learn more and register [here](#). [Bodi]

### U.S. EPA on Assessing and Addressing Near-Road Air Quality with Easy Modeling

A U.S. EPA webinar on **April 20 at 2-3:30 p.m. Eastern** will present the [Community-LINE Source Model \(C-LINE\)](#), a user-friendly, near-road air pollution model. C-LINE allows users to evaluate how changes in traffic may affect air pollution. Users can easily manipulate model inputs to also examine upwind and downwind effects, or estimate the areas most influenced annually by near-road pollution.

[Register here](#) to attend the webinar and learn more. [Hanson]

## ECOSWIRE Notes

*ECOSWIRE* will not be published on April 7 due to the ECOS Spring Meeting. Publication will resume on April 14.

Also, the March 24 edition of *ECOSWIRE* incorrectly reported the date of a House hearing on state ozone standard flexibility. That hearing was held on March 22, not May 22.





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**To:** Flynn, Mike[Flynn.Mike@epa.gov]  
**From:** Home Performance Coalition  
**Sent:** Wed 7/26/2017 1:45:21 PM  
**Subject:** Your HPC Weekly News - The 2017 Southeast Regional Conference Agenda is Released!

## HPC News & Perspectives

### July 26, 2017 | Issue 61

#### Chris Docchio

This summer, we are doing a series of blog posts called "Who's Who at HPC?" Over the next few weeks we will introduce you to HPC staff, featuring both personal and professional tidbits of information to help you get to know us better. Each staff member answered the same questions: What do you enjoy the most about your role?; What is your proudest accomplishment?; and What do you enjoy doing outside of work?

Today we focus this series on  
**Chris Docchio**

Chris Docchio is the Director of Partner Relations at HPC. He builds strategic alliances and corporate partnerships that increase visibility, enhance businesses and foster new collaborations. He develops, administers and directs the largest trade show in the home performance industry and elevates the conference experience with additional promotional and advertising opportunities. With almost two decades of sales experience and a B.S. in Marketing from Robert Morris University, Chris understands how to provide warm customer service and build corporate partnerships that last.



## 2017 & 2018 Conference Happenings

### Conference Hosts:

HPC develops new approaches to federal, state and local policies that promote growth in the residential energy efficiency sector through research, education, and policy analysis. This summer, we are highlighting a variety of ways in which we are on your side. This is the eighth post in a series called; "HPC Working For You."

### Introducing the 2017 HPC New York Regional Home Performance Conference in Saratoga Springs, NY

Join two of the industry's leading thinkers for an intimate one-day intensive workshop focusing on sales, marketing and business administration, presented by Home Performance with ENERGY STAR® and the Home Performance Coalition (HPC). Peter Troiano, President and Founder of Energy Circle, LLC, and Ed Matos, President and Founder of Competitive Advantage Consulting, will share their insights and experience that can help you gain business success. \*Now coming to Ohio & California. Be on the lookout for additional state locations near you.

November 14, 2017

Hiltonville, Ohio, OH

Today we focus this series on

Energy Policy

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### Home Energy Magazine talks Home Performance Forum with David Butler

HPC launched the Home Performance Forum, where members discuss topics in their energy efficiency home retrofit market by ensuring that the proper policies, regulations and legislation are enacted to create more jobs in retrofit industry while reducing costs for the homeowners and making their homes more comfortable and healthy.

### CALLING ALL EXHIBITORS

### CALLING ALL PRESENTERS

submit your session proposal by 9/10/17!

Read the full article here

Learn how YOU can get involved in

Saratoga Springs.

### Partner News

### Conference Host:

**TEC Released the Tubing Assistant!** One of the goals at TEC is to provide unique and easy-to-use training tools to customers and trainers. TEC developed this training tool based on demand and feedback. One of the most common mistakes made in the field is hooking up the tubing incorrectly. In an effort to provide both a simple training tool AND a tool to help cut down on mistakes, TEC developed a Tubing Assistant. To use the Tubing Assistant, simply select what kind of test you're doing, select pressurize or depressurize, select the gauge location, select your test device, and finally, select which gauge you're using. Based on your selections, the handy tubing assistant will show you how to hook up your tubing! [Learn more!](#)

Join us at the 2017 HPC Southeast Regional Home Performance Conference in S.C.,

**Flat Rate Pricing: Is It Right for Your Company?** a BPI Webinar: Tuesday, August 08, 2017 @ 3PM EDT/12PM PDT

This program will simply present how flat rate pricing works and the potential benefits and/or pitfalls for the company and the customer. Nearly all company owners have strong feelings for, or against, flat rate pricing for the residential service side of their business. The intention is not to "persuade" you to move towards flat rate pricing, but to inform you of the facts so they can make an educated decision for or against it. [Earn Up To 1.5 BPI CEUs](#)

Greenville, SC 29607

Free to BPI GoldStar Contractors and BPI Test Centers; \$50 fee for all others. [Register here](#)

### THE AGENDA IS RELEASED!

**Volunteers needed for new video series on energy efficiency jobs in NC!** Looking for NC-based residential and commercial energy efficiency product manufacturers and contractors to star in a new video series produced by American Council for an Energy-Efficient Economy (ACEEE) highlighting the different types of energy efficiency jobs in the U.S.!

### CALLING ALL EXHIBITORS

Learn how YOU can get involved in

For More Info:

Philadelphia Marriott Downtown

1201 Market Street

Philadelphia, PA 19107

### CALLING ALL EXHIBITORS

### CALLING ALL PRESENTERS

Only 3 weeks left to submit your proposal!

## **REGISTER TODAY!**

**Eleven weeks away; Don't  
delay.**

**Learn how YOU can get involved in  
Greenville.**

**Conference Partner:**

See you at the 2017 HPC California Regional  
Home Performance Conference in Long  
Beach, Nov. 14-15, '17

Hilton Long Beach  
701 W Ocean Blvd  
Long Beach, CA

## **CALLING ALL EXHIBITORS**

## **CALLING ALL PRESENTERS**

Only 3 weeks left to submit your proposal!

**Learn how YOU can get involved in  
Long Beach.**

**HPC & Home Performance with  
ENERGY STAR® team up and bring you  
Building Profits with Home Performance.  
HP Sales & Marketing Boot Camp**

Program Proposals: Bethany Pittmar  
[bpittmar@homeperformance.org](mailto:bpittmar@homeperformance.org)  
Event Registration: Chris Docchio  
[cdocchio@homeperformance.org](mailto:cdocchio@homeperformance.org)

Beginning with NCBPA members across the state, the video series will be professionally filmed and produced in the next few months at your offices, warehouses and customers' homes and buildings to illustrate the many different types of energy efficiency jobs in our state and the benefits they provide to customers and local economies. Have you ever wanted FREE professional video made to promote your products and services? Now is the time!

**Catalysts of the Climate Economy: National Innovation Summit" (cc:econ),**

**September 6-8 at the University of Vermont in Burlington, VT** Join entrepreneurs, investors, and thought leaders who are accelerating economic development by solving the unprecedented challenges presented by climate change. Speakers will include Jigar Shah, Generate Capital; Danny Kennedy, CA Clean Energy Fund; Carol Browner, Former Climate and Energy Czar in the White House Office of Energy and Climate Change Policy; and CEOs and leaders from Patagonia, Stonyfield Yogurt, General Motors, Seventh Generation, Ben and Jerry's, Fetzer Vineyards, Proterra, Generation Investment Management, and more! To find out more, check out the [agenda](#) and [visit the website](#) to register and for more information.

### **Your Voice Matters! Join the Faces of EE.**

To help us keep a strong momentum for energy efficiency funding, we hope you will consider participating in advocacy efforts for our industry. Sign up using this convenient [Google form](#) to indicate your specific interest. You are also invited to follow us on Twitter [@FacesOfEE](#), as we reveal the power of energy efficiency by highlighting "real people, real jobs."

## **Interesting Industry News**

### **Solar Executive MBA Training**

Access the tools, knowledge, and network you need to close solar deals, increase your bottom line, and grow your solar business. The Solar Executive MBA is technical, rigorous, and challenging. It's the most intense six-week course you'll ever find but also the most valuable. We developed it for leaders who are responsible for the financial details that drive solar projects. Access financial modeling tools and legal documents worth \$25k. [Register today!](#)

### **Surging energy efficiency programs would hurt economy**

Jane Apgar Domitrowits and Jim Apgar, Lehigh Valley Business  
July 2017

With decades of local experience in the energy industry, we know that proposed federal budget cuts affecting energy efficiency are bad for our customers and our business — and will harm the economy of the greater Lehigh Valley, Pennsylvania and the country as a whole.

The Weatherization Assistance Program, which offers low-income families grants to make their homes more energy efficient, would be entirely eliminated under the proposed budget.

### **House Passes Bill to Delay Obama-era Smog Reduction Rules**

Michael Biesecker, The Portland Press Herald  
July 2017 updated

lawmakers voted 229 to 199 to approve the Ozone Standards Implementation Act of 2017. The measure delays by at least more years the implementation of 2015 air pollution standards issued by the Environmental Protection Agency under the prior administration.

### **TOUR DE NON-ENERGY IMPACTS**

Samantha Caputo, Northeast Energy Efficiency Partnerships (NEEP)  
July 2017

Just like climbing a steep slope, monetary values are often considered the most rigorous approach to estimate the value of NEIs. They often focus on easily-measured attributes, and results may be based on statistical analysis with associated confidence intervals. There are four main approaches to measuring NEIs. This includes direct (corporate records, utility data), secondary (financial calculations), model (jobs and emissions), and survey (including academic studies, utility or state-specific studies, and questions included as part of process and impact evaluations). As shown below, these methods result in monetized NEIs.

### **Jump Outlines Deregulation Agenda**

Arianna Skibell, E&E News  
July 2017

White House this morning released the new administration's first regulatory plan, a sweeping survey of federal agency actions. The latest issue of the biannual so-called Unified Agenda includes mostly notices to withdraw or revise regulations, a sharp contrast to the Obama years. Plans for dozens of rules have appeared.

## Thank you to our Sustaining Partners

Home Performance Coalition, 1424 K Street NW, Suite 500, Washington, DC 20005  
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[About our service provider](#)

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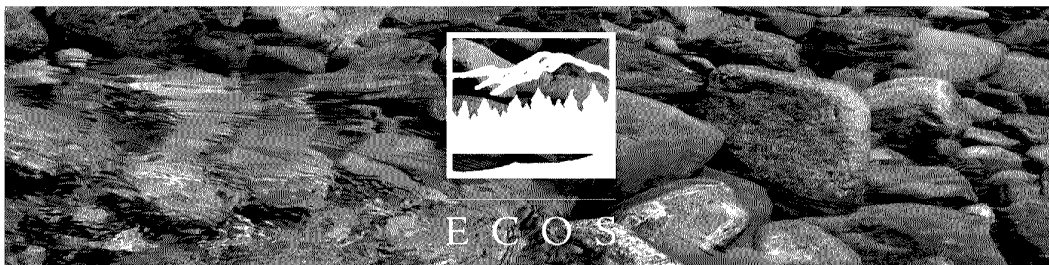
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**From:** ECOS  
**To:** Flynn, Mike  
**Sent:** 5/5/2017 8:40:57 PM  
**Subject:** U.S. EPA FY17 Funding, STEP Meeting, & More

ECOSWIRE | Vol. 19 No. 17

[View this email in your browser](#)



# ECOSWIRE

Friday, May 5, 2017

Vol. 19 No. 17

## Table of Contents

- [Congress Passes FY17 Omnibus that Avoids Significant U.S. EPA Cuts](#)
- [STEP Theme and Registration to Go Live Monday](#)
- [ECOS Seeks Innovative CWSRF Projects to Spotlight](#)
- [U.S. EPA Submits Rule to Repeal and Rewrite WOTUS](#)
- [ECOS Welcomes U.S. EPA Step Forward on State CCR Permitting](#)
- [ERIS Releases Study of State Research Needs](#)
- [State News You Can Use](#)
- [Need-to-Know News in Air & Water](#)
- [Regulatory Reform Corner](#)
- [Upcoming Events](#)

# Congress Passes FY17 Omnibus that Avoids Significant U.S. EPA Cuts

*Area of Focus: Planning*

On May 4, Congress passed an omnibus appropriations bill to fund the federal government through the end of fiscal year 2017. The bill funds U.S. EPA at \$8.06B, an \$81M or one percent reduction from FY16 enacted funding levels. Noteworthy changes to the State and Tribal Assistance Grants (STAG) account include:

- An increase in the usual rescission from unobligated STAG funds from \$40M to \$61.2M;
- The addition of a new \$4M *Water Quality Monitoring* non-categorical grant to address the Gold King Mine Spill;
- Partial increases in the Diesel Emissions, Targeted Airshed, and CWA §319 grant programs; and
- Elimination of the \$21M State Multipurpose Grant program from FY2016.

President Trump, despite earlier comments hinting at a shutdown, is expected to sign the bill before the government shutdown deadline of midnight today. Once the bill is enacted, EPA will have 30 days to release an FY17 operations plan containing program-level information on funding and rescission applications.

For an ECOS chart showing the full EPA budget, click [here](#). [McAleer]

## STEP Theme and Registration to Go Live Monday

After wrapping up a successful Spring Meeting last month, ECOS already is busy planning its July 17 STEP Meeting in Washington, DC. The meeting theme, hotel information, and registration will go live on Monday at [www.ecos.org](http://www.ecos.org).

To discuss STEP sponsorship opportunities, please contact ECOS Executive Director Alexandra Dunn at (202) 266-4929 or [adunn@ecos.org](mailto:adunn@ecos.org). [Lane]

## ECOS Seeks Innovative CWSRF Projects to Spotlight

*Area of Focus: [Water](#)*

ECOS is pleased to announce the commencement of a project to document additional innovative projects funded by the Clean Water State Revolving Fund (CWSRF) under a



cooperative agreement with U.S. EPA's Office of Water. We are seeking 1-2 paragraphs about projects and approaches that demonstrate unique uses and dispersion of CWSRF funds. The uniqueness and creativity of the work could lie in the project itself or in the financing approaches, terms, and conditions. We will ultimately profile about 15 projects, in a variety of large, medium, and small communities, and in rural, suburban, and urban settings. We are especially focusing on projects that benefit disadvantaged communities, that build recipient capacity, and that address sustainability challenges.

ECOS will select 10-15 projects to be featured from those submitted, and will follow up with those points of contact to document the approach in detail. ECOS will write the case studies in summer 2017, and will share drafts with the parties referenced in each case study. A panel of judges will choose three projects from EPA, ECOS, and our partner water associations to be featured in a national webinar in the fall. The report will be designed and finalized shortly thereafter. We will share a link to a recording of the webinar for future use and viewing.

Please see this [memorandum](#) for the information you need to respond to this call for brief project descriptions to be included in ECOS' report and webinar. Examples may be provided to [Layne Piper](#) of ECOS by May 19. [Piper]

## U.S. EPA Submits Rule to Repeal and Rewrite WOTUS

*Area of Focus:* [Water](#)

U.S. EPA on May 2 sent to the White House Office of Management (OMB) its first [rule](#) under the Trump Administration's policy review order. The proposed rule, "Definition of 'Waters of the United States' –Recodification of Preexisting Rules," would repeal the Obama-era Clean Water Act (CWA) jurisdiction rule as the first step in the process of rewriting that policy.

The proposed rule may not be subject to the Administration's order for agencies to designate two existing rules for repeal for every new rule because it has not been categorized as "economically significant."

Technically the deadline for OMB review is 90 days, but the process could take more time. For a copy of an EPA presentation detailing the process for fulfilling Trump's Executive Order to review the Clean Water Rule, please email [Layne Piper](#). [Piper]

## ECOS Welcomes U.S. EPA Step Forward on State CCR Permitting

*Area of Focus:* [Waste](#)

ECOS this week commended U.S. EPA on its initiation of guidance regarding EPA review

and approval of state applications to operate coal combustion residual (CCR) permit programs. State authority to develop and carry out CCR programs, provided by the 2016 Water Infrastructure Improvements for the Nation Act (WIIN Act), actively had been sought by ECOS and its members.

On April 28, EPA Administrator Scott Pruitt sent letters to the nation's Governors informing them of steps the agency is taking to implement its new authority for approving state programs. "In working together on the draft guidance, EPA and the states are acting in the spirit of cooperative federalism," notes ECOS Executive Director and General Counsel Alexandra Dunn. "ECOS looks forward to continued dialogue with EPA and the Association of State and Territorial Solid Waste Management Officials in the guidance development process." \*

The ECOS Waste Committee will discuss development of the guidance during a May 12 call (see related story). [Parisien]

## ERIS Releases Study of State Research Needs

**Area of Focus:** *Environmental Research Institute of the States*

The Environmental Research Institute of the States (ERIS), an affiliate of ECOS, released this week a summary of states' current research needs and environmental priorities identified in its second bi-annual survey. The survey, distributed in fall 2016, aimed to coordinate state science needs with the work of the U.S. EPA's Office of Research and Development (ORD).

States identified surface and groundwater quality, remediation and changing remediation standards, nutrients and nonpoint source water contamination, emerging contaminants and toxics, and air quality, specifically the new ozone standard, as the most pressing challenges for their agencies in 2016. States agreed that more training on federal research information, methods, and tools could help to alleviate these issues, and noted webinars and a searchable website as resources to strengthen communication, translation of research, and the state-federal relationship around research.

ERIS has already communicated the survey results with ORD. In late February and March 2017, ORD hosted a series of follow-up calls with state representatives to discuss in more detail the science needed to address the state identified priority areas. "States are already gaining insight and finding value in the survey follow-up calls conducted with ORD," says David Paylor, ERIS President and Director of the Virginia Department of Environmental Quality. "There have been requests for additional coordination, especially regarding topics of high priority like perfluorinated chemicals."

"The Environmental Research Institute of the States is very pleased to be contributing to forming a dynamic and relevant research agenda, both at the EPA and other federal

agencies throughout the scientific and policy community,” says Alexandra Dunn, Executive Director and General Counsel at ECOS.

See the full survey summary [here](#). [Longsworth]

## State News You Can Use

[Iowa Project AWARE Cleanup to Tackle Upper Cedar River](#)

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[Delaware Streamlines Government via Open Data Portal](#)

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[Minnesota Expands Plastics Collection Services](#)

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[South Carolina Works to Curb Food Waste](#)

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[Ohio Offers Array of Assistance Services to Communities and Businesses](#)

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[Texas Offers Tips on Going Green with Pets](#)

## Need-to-Know News in Air & Water

### **Twelve Governors Urge Trump to Stay in Paris Agreement, Keep U.S. Commitments**

*Area of Focus:* [Air](#)

Governors from California, Colorado, Connecticut, Delaware, Hawaii, Minnesota, New York, Oregon, Pennsylvania, Rhode Island, Virginia, and Washington this week signed onto a letter urging President Trump to remain in the Paris Climate Agreement and uphold the

United States' commitment to reduce greenhouse gas emissions 26-28 percent below 2005 levels by 2025.

Click [here](#) to view the letter. [Poole]

## **Pruitt Sees 'Relief' Coming after Ending EPA's 'War on Coal'**

*Area of Focus:* [Air](#)

In a May 1 op-ed in the *Washington Times*, U.S. EPA Administrator Scott Pruitt writes that “relief – and prosperity – is on the way” because the Trump administration has ended the “war on coal” by targeting major climate change regulations such as the agency's greenhouse gas standards for existing power plants.

Pruitt also maintains that greenhouse gas emissions growth in China and India “would continue unchecked” under Obama Administration policies and criticizes the Clean Power Plan for yielding “very little” environmental benefits while simultaneously imposing major economic costs.

For more information, please follow this [link](#). [Poole]

## **Governors Form Water Policy Learning Network**

*Area of Focus:* [Water](#)

The National Governors Association this week announced the formation of a new Water Policy Learning Network in its Center for Best Practices, to be co-chaired by Governors Edmund G. Brown of California and Larry Hogan of Maryland. The goal of the network is to inform Governors' natural resource advisors on best practices for water policy that “they are uniquely positioned to advance.”

For more information, see NGA's [press release](#). [Piper]

## **Regulatory Reform Corner**

In accordance with Executive Order 13777, “Enforcing the Regulatory Reform Agenda,” U.S. EPA is seeking input on regulations that may be appropriate for repeal, replacement, or modification.

On April 11, EPA [announced](#) it is soliciting public comments on its evaluation of existing regulations per EO 13777. All public comments will be accessible online in U.S. EPA's docket on the [Regulations.gov](#) website identified by Docket ID No. [EPA-HQ-OA-2017-0190](#). On April 13, EPA issued a [Federal Register](#) notice: [Evaluation of Existing Regulations](#).

On March 24, EPA Administrator Scott Pruitt issued an [agency-wide memorandum](#) on implementation of EO 13777, which announced members of the required Regulatory Reform Task Force and directed program offices to seek public input on existing regulations and report findings to the Task Force by May 15. Per the Administrator's [March 24 memo](#), EPA offices have conducted several sessions and still plan the following:

- The [Office of Land and Emergency Management](#) will host a [public meeting to obtain public feedback](#) on **May 9 at 9 a.m.- 5 p.m. Eastern** in Arlington, VA.

To track all U.S. EPA regulatory reform activities, visit the regulatory reform central website at <https://www.epa.gov/laws-regulations/regulatory-reform>. [Parisien]

## Upcoming Events

### Calls

#### Shale Gas Caucus

The Shale Gas Caucus will hold the next call in its produced water series on **May 10 at 2-3 p.m. Eastern**. Participants will hear from the Environmental Defense Fund on U.S. EPA's publicly owned treatment works guidance and from Anadarko on centralized waste treatment permitting. Time will be allotted at the end of the call for a discussion of proposed topics for the SGC's third phase.

A calendar invitation has been distributed to SGC members, and an agenda and materials will follow. For additional information or to participate (open to states and EPA), contact [Lia Parisien](#) of ECOS. [Parisien]

#### Waste Committee

The ECOS Waste Committee will hold a call on **May 12 at 3-4 p.m. Eastern** to discuss the development of EPA guidance on state combustion residual (CCR) permitting programs. Moderated by Waste Committee Chair Scott Thompson of Oklahoma, the call will feature Association of State and Territorial Waste Management Officials (ASTSWMO) CCR Workgroup Co-Chairs Bonnie Buthker of Ohio and Mike Forbeck of Ohio, who will report out on the workgroup's recent discussions. States will then have a chance for Q&A and input.

A Google call invitation has been distributed. To be added to the invitation, please contact [Lia Parisien](#). [Parisien]

### Webinars

## ITRC on Long-Term Contaminant Management

Institutional controls (ICs) are administrative or legal restrictions that provide protection from exposure to contaminants on a site. When ICs are jeopardized or fail, direct exposure to human health and the environment can occur.

While guidance and research to date has focused on the implementation of ICs, a training class on **May 9 at 1-3:15 p.m. Eastern** will focus on post-implementation IC management, including monitoring, evaluation, stakeholder communications, enforcement, and termination.

Learn more and register [here](#).

## Combined Air Emissions Reporting (CAER) Project

*E-Enterprise*

On **May 10 at 2-3 p.m. Eastern**, a webinar will be held on the Combined Air Emissions Reporting (CAER) project. CAER is a collaborative effort among U.S. EPA, state, tribal, and local air agencies to streamline industry reporting of air emissions and associated data. The webinar will offer an advance look at the presentation planned for EN2017 and will include information on CAER's background, supporting projects, and lessons learned to date.

Registration is available [here](#). The call-in number is (415) 930-5321, with access code 945641420. Contact [Joe Mangino](#) of U.S. EPA for more information. [Parisien]

## ECOS on State Lean Skills Exchange Program

On **May 10 at 2-3 pm Eastern**, ECOS will hold a webinar on its State-to-State Business Process Improvement (BPI) Skills Exchange Program. This program, kicked off in 2016, pairs BPI leaders across state agencies and provides support for a short, in-person staff detail focused on training, strategic planning, or other capacity building exercises.

Guests will hear from the state participants in three different exchanges, as well as an introduction from ECOS Innovation & Productivity Committee Chair John Mitchell of Kansas. To register for the webinar, click [here](#). [McAleer]

## ITRC on LNAPLs

Light non-aqueous phase liquids (LNAPLs) are organic liquids such as gasoline, diesel, and other petroleum hydrocarbon products. Understanding LNAPLs is important because they are present in the subsurface at thousands of remediation sites across the country, and are often the sole reason why a site remains "open."

This ITRC training course is relevant for all levels of state and federal regulators, environmental consultants, and technically inclined site owners and public stakeholders. The training course is divided into three parts:

- LNAPL Characterization and Recoverability -- Improved Analysis on **May 11 at 1-3:15 p.m.** [Learn more and register.](#)
- Evaluating LNAPL Remedial Technologies for Achieving Project Goals on **May 18 at 1-3:15 p.m.** [Learn more and register.](#) [Bodi]

## U.S. EPA on Stormwater Finance

EPA's Water Infrastructure and Resiliency Finance Center and the Water Environment Federation are hosting a series of webinars on stormwater finance. The series will focus on strategies that counties can use to support stormwater management programs. Each webinar will provide a technical overview of successful examples of communities supporting stormwater programs.

Please register for the webinars at these links:

- **May 11, 2-3 p.m. Eastern** - [Register for webinar](#)
- **May 23, 2-3 p.m. Eastern** - [Register for webinar](#)

For more information, click [here](#). [Piper]

## EN2017 Meeting Webcast

*[Exchange Network](#)*

The 2017 Exchange Network National Meeting (EN2017) will be broadcast live via webcast! Unable to join us in person? Join the webcast to view the [General Sessions on May 16-18](#) and the [Concurrent Presentation Sessions on the afternoons of May 16-17](#). You will be able to remotely engage in discussions, submit questions to presenters, and interact with panelists!

Registration for the webcast is now open [here](#). There is no charge.

Links to recordings and the presentation slides will be available [here](#). [Ortiz/Parisien]

## U.S. EPA on Decentralized Wastewater MOU Partnership

EPA will hold a webinar on "How State and Local Governments Promote and Proclaim SepticSmart Week," presented by the EPA Decentralized Wastewater MOU Partnership. The webinar will be held on **May 16 at 2-3 p.m. Eastern**. Staff from the State of Washington, the State of Alaska, and the City of Ogden Dunes, Indiana will present. Register for the webinar [here](#). [Piper]

## U.S. EPA on Rapid Benefit Indicators

The Rapid Benefit Indicators (RBI) approach, developed by EPA's Office of Research and Development, is an easy-to-use process for assessing restoration sites using non-monetary benefit indicators. The RBI approach uses readily available data to estimate and quantify benefits to people around an ecological restoration site using indicators of nature's value to people (ecosystem service benefit indicators).

The framework uses five questions to guide the process of indicator selection and measurement: Can people benefit from an ecosystem service? How many people benefit? How much are people likely to benefit? What are the social equity implications? How reliable are benefits expected to be over time?

State environmental and health agencies, tribes, and others are invited to register for the webinar on **May 17 at 3-4 p.m. Eastern**. To join, please register [here](#). If you are unable to listen through your computer speakers, please dial [\(866\) 299-3188](tel:8662993188) and enter access code [2025646669](tel:2025646669).

Contact [Lisa Matthews](#) for more information or [Amy Scheuer](#) with registration questions. [Parisien]

## U.S. EPA on Water Issues

U.S. EPA has two ongoing series of webinars addressing clean water and small water systems. The Office of Research and Development (ORD) hosts a series on [water research](#) with the following monthly webinars scheduled:

- **May 31** - EPA's Global Change Explorer Web Tools Collection
- **June 21** - Nonpotable Water Reuse in Urban Environments
- **August 30** - Nutrients: Weatherizing, Salinization, and Evolution of Urban Water
- **October 25** - Life Cycle Assessment as a Decision Support Tool

More information on the water research webinar series, including how to register, is available [here](#).

In addition, ORD and the Office of Water host a monthly [webinar series on small drinking water systems](#). Their schedule for the rest of the year is:

- **May 20** - Water Systems Partnerships
- **June 27** - Treatment for Harmful Algal Blooms and Associated Toxins and Funding for Upgrades
- **July 25** - Water Loss and Distribution System Infrastructure: Leak Detection and Cost Savings
- **August 29** - Treatment and Control for Manganese and Iron
- **September 26** - Small Systems Research DeRISK Center
- **October 31** - State Acceptance of UV Disinfection Technologies



- **November 28** - Lead in Schools and Selecting Lead Free Fixtures
- **December 12** - Residual Chlorine and Calibration Check for Chlorine Instruments

More information on the small systems webinars, including recordings of past webinars and how to register, is available [here](#). [Hanson]



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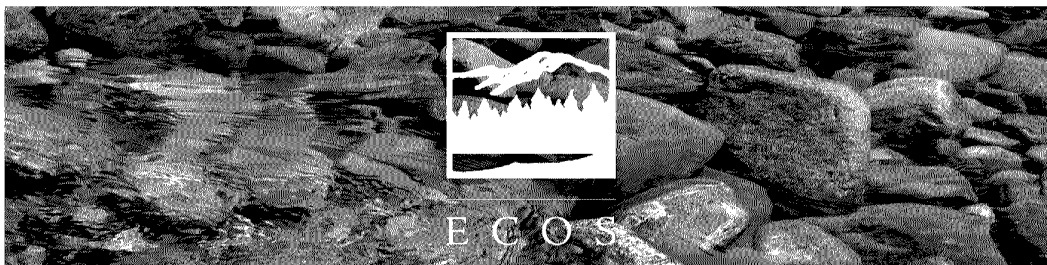
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ECOSWIRE | Vol. 19 No. 41

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## ECOSWIRE

Friday, November 3, 2017

Vol. 19 No. 41

### Table of Contents

- [ECOS President Advances State Priorities across Nation's Capital](#)
- [ECOS Expresses Support for Cooperative Federalism, E-Enterprise in U.S. EPA Strategic Plan Comments](#)
- [Pruitt Announces Directive on Agency's Science Committees](#)
- [U.S. EPA Seeks Comments on Applying Federal Permitting Best Practices to State Infrastructure Permits](#)
- [House Looks at Hurricane Response Takeaways in Two Hearings this Week](#)
- [State News You Can Use](#)
- [ECOS Resource of the Week](#)
- [Need-to-Know News in Air, Water, & Environmental Justice](#)
- [E-Enterprise for the Environment](#)
- [Member News](#)
- [Career Opportunities](#)
- [Upcoming Events](#)

# ECOS President Advances State Priorities across Nation's Capital

This week, Todd Parfitt of Wyoming and ECOS staff participated in a series of meetings to share Parfitt's [priorities](#) as ECOS President and information on Cooperative Federalism 2.0 and ECOSResults.org. Parfitt met with the White House Office of Management and Budget on the outlook for state and tribal assistance grants and ECOS' [budget priorities](#) generally. Walking the halls of the U.S. Capitol, Parfitt met with Senate Environment & Public Works Committee Chair John Barrasso (R-WY) and Rep. Liz Cheney (R-WY).

Other key meetings included discussions with EPA officials on the new [Smart Sectors Program](#) and permitting reform (see related story), and a gathering with the Executive Directors of the Association of Clean Water Administrators and Association of State Wetland Managers on advancing state assumption of the Section 404 program (see related [ECOS Resolution](#)). [Dunn/Swanson]

## ECOS Expresses Support for Cooperative Federalism, E-Enterprise in U.S. EPA Strategic Plan Comments

ECOS on October 31 submitted [comments](#) on the U.S. EPA's draft FY 2018-2022 Strategic Plan. In the comment letter, ECOS offers support for the draft plan's emphasis on cooperative federalism and E-Enterprise for the Environment and suggests additional areas for agency focus, such as emergency response. The letter is accompanied by several pages of technical input on various aspects of the strategic plan.

The draft plan was released October 5 for public comment. Over the course of the 26-day public comment period, ECOS held discussions on the draft through an all-member call and correspondence and submissions from individual states.

Stay tuned for a final version of the strategic plan later this year. [McAleer]

## Pruitt Announces Directive on Agency's Science Committees

On October 31, U.S. EPA Administrator Scott Pruitt issued a directive designed to ensure "independence and integrity" of agency Federal Advisory Committees (FACs). The new policy requires all FAC members to be independent from EPA and will prevent any individual who receives EPA funding from serving on one of the agency's FACs. This principle would not apply to state, tribal, or local government agency recipients of EPA grants.

The directive focuses on the following areas related to FACs: strengthening member independence; increasing state, tribal and local government participation; enhancing geographic diversity; and promoting fresh perspectives.

In addition, Pruitt announced key leadership appointments for three of the 23 committees: Michael Honeycutt of the Texas Commission on Environmental Quality will chair the Science Advisory Board; Tony Cox of Cox Associates will head the Clean Air Scientific Advisory Committee; and Paul Gilman of Covanta will serve as Chairman of the Board of Scientific Counselors. In the coming days, the full membership of these committees and boards will be announced and is expected to include state environmental agency science experts. [Swanson]

## **U.S. EPA Seeks Comments on Applying Federal Permitting Best Practices to State Infrastructure Permits**

On October 31, EPA issued a [Federal Register](#) notice seeking comments on whether federal permitting best practices are generally applicable to infrastructure permits issued by delegated or authorized states as described in Title 41 of the Fixing America's Surface Transportation Act (FAST-41).

Federal "best practices" specifically refers to the January 18 document [Recommended Best Practices for Environmental Reviews and Authorizations for Infrastructure Projects](#) developed by the Federal Permitting Improvement Steering Council. The document includes the following best practice areas: enhancing early stakeholder engagement; ensuring timely decisions regarding environmental reviews (including exploring opportunities to expand use of general permits where appropriate); improving coordination between federal, state, and tribal agencies; increasing transparency; reducing administrative burdens by using online permit applications, eliminating unnecessary internal process steps, and conducting routine evaluations of permit processes; using geographic information systems (GIS) to expedite permitting; creating and providing training; and implementing other best practices such as use of conflict resolution and third-party neutral facilitators.

Comments are due **November 20**. States are asked to share feedback on the best practices with [Beth Graves](#) of ECOS. [Graves]

## **House Looks at Hurricane Response Takeaways in Two Hearings this Week**

This week, the House Committee on Transportation and Infrastructure held a hearing to "explore key takeaways from this year's unprecedented hurricane season." One of the witnesses was new U.S. EPA Region 2 Administrator Pete Lopez.

Also this week, the House Committee on Energy and Commerce Subcommittee on Energy held a hearing entitled *The 2017 Hurricane Season: A Review of Emergency Response and Energy Infrastructure Recovery Efforts*. This hearing featured witnesses from the U.S. Department of Energy and U.S. Army Corps of Engineers. [Dunn]

## State News You Can Use

[Louisiana, U.S. EPA, and DOJ Reach Air Pollution Settlement with ExxonMobil](#)

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[Colorado, U.S. EPA, and Justice Department Reach Air Pact with PDC Energy](#)

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[Missouri Accepting Comments on Reducing Red Tape](#)

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[Wyoming Works with U.S. EPA to Protect Streams](#)

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[Virginia Reports Cleanest Air in Past 20 Years](#)

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[Arkansas Staff Get ‘Groovy’ at Arkansas Environmental Federation Convention](#)

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[Maine Announces Governor’s Awards for Environmental Excellence](#)

<b>ECOS Resource of the Week</b>
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## ITRC's Guidance on Complex Sites

Does your state agency use resources from the Interstate Technology and Regulatory Council (ITRC)? One such resource is its latest guidance document, *Remediation Management of Complex Sites*, released this week.

This guidance presents a recommended process for remediation management at complex sites, incorporating and referring to best management practices, tools, and technologies described in previous publications by U.S. EPA, the U.S. Department of Defense, ITRC, and others. The guidance also includes numerous case studies that describe real-world applications of remediation and remediation management at complex sites.

Click [here](#) to view the document. ITRC will hold its first Complex Sites online training class on **February 6, 2018 at 1-3:15 p.m. Eastern**.

ITRC is a state-led coalition of state and federal regulators, industry, and stakeholders working together to achieve regulatory acceptance of environmental technologies. Its website can be accessed at the bottom of ECOS' homepage, or [here](#). [Bodi/Longsworth]

## Need-to-Know News in Air, Water, & Environmental Justice

### U.S. EPA Sets Public Hearing on CPP Repeal

*Area of Focus:* [Air](#)

U.S. EPA has [announced](#) that it will hold a public hearing on the proposed repeal of the [Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units](#) (commonly known as the Clean Power Plan, or CPP) in Charleston, West Virginia on **November 28-29**. Registration will be open once the [public meeting notice](#) is published in the *Federal Register*, and all individuals wishing to speak are encouraged to register in advance.

"EPA is headed to the heart of coal country to hear from those most impacted by the CPP and get their comments on the proposed Repeal Rule," said EPA Administrator Scott Pruitt.

For additional details, see the [EPA press release](#) and [EPA website for background](#)

## **U.S. EPA Issues Pair of Actions on Cross-State Air Pollution**

*Area of Focus:* [Air](#)

U.S. EPA on October 30 announced two actions that address cross-state air pollution for the 2008 ozone standards.

One action denies a petition filed by nine northeastern states under Section 176A of the Clean Air Act asking the agency to add eight states plus portions of Virginia to the Ozone Transport Region. EPA has determined that approaches such as those under the Clean Air Act's (CAA's) good neighbor provision will be more effective in addressing remaining ozone transport obligations for the 2008 standards. More information is available [here](#).

In the second action, EPA issued a memo to provide supplemental information to states and the Regions. This information supports the development or review of State Implementation Plans that address the CAA's "good neighbor" provision, as it pertains to the 2008 ozone National Ambient Air Quality Standards. While this information can inform the development of these plans, the information is not a final determination regarding states' remaining obligations under the good neighbor provision, and any such determination would be made through notice-and-comment rulemaking. More information is available [here](#). [Parisien]

## **U.S. EPA Signs NODA for Proposed Stays of Oil and Gas Air Rules**

*Area of Focus:* [Air](#)

On November 1, U.S. EPA signed two Notices of Data Availability (NODAs) related to the agency's proposed stays of air requirements in the 2016 New Source Performance Standards for the oil and natural gas industry. EPA on June 16 had proposed a two-year stay and a three-month stay of the rule's fugitive emissions requirements, well site pneumatic pump standards, and requirements that closed vent systems be certified by a professional engineer while the agency reconsiders issues associated with these requirements.

Since proposing the stays, the agency has heard a wide range of concerns and suggestions from stakeholders both about the 2016 rule and the proposed stays. The NODAs provide information on some of these issues and seek comments to assist in developing a final rule. The information provided in the NODAs falls into two categories: challenges to implementing the requirements in the 2016 rule that would be covered by proposed stays; and the agency's legal authority to issue a stay. EPA also is providing an updated analysis of cost savings, forgone benefits, and net benefits of the proposed two-year stay.

EPA will take public comment on the NODAs for 30 days following publication in the *Federal Register*. For more information, click [here](#). [Parisien]

## **U.S. EPA Recognizes 28 CWSRF Program Successes**

*Area of Focus:* [Water](#)

U.S. EPA on October 31 recognized 28 clean water infrastructure projects for excellence and innovation within the Clean Water State Revolving Fund (CWSRF) program at the 2017 National SRF Workshop hosted in Indianapolis, Indiana by the [Council of Infrastructure Financing Authorities](#). Honored projects range from large wastewater infrastructure projects to small decentralized and agriculture projects.

EPA's Performance and Innovation in the SRF Creating Environmental Success (PISCES) program celebrates innovation demonstrated by CWSRF programs and assistance recipients. The CWSRF is a federal-state partnership that provides communities a permanent, independent source of low-cost financing for a wide range of water quality infrastructure projects. Over the past 30 years, CWSRF programs have provided more than \$125 billion in financing for water quality infrastructure.

"For decades the Clean Water State Revolving Fund has supported critical water infrastructure projects that help grow the American economy and support our way of life," said Mike Shapiro, Acting Assistant Administrator for EPA's Office of Water. "These projects are a testament to the power of the Clean Water State Revolving Fund in leveraging investment to meet the country's diverse clean water needs."

More about the projects and the PISCES program can be found [here](#). Information about an ECOS project to identify and share innovative CWSRF work can be found [here](#). [Parisien/Piper]

## **U.S. EPA Announces Selections for 2017 Environmental Justice Small Grants**

*Area of Focus:* [Environmental Justice](#)

U.S. EPA has announced the award of nearly \$1.2 million in competitive grants to 36 community and tribal organizations working to address environmental justice issues in their communities. The grants enable these organizations to conduct research, provide education, and develop community-driven solutions to local health and environmental issues in minority, low-income, and tribal communities.

In an effort to increase outreach to affected communities in states and territories, the 2017 [Environmental Justice Small Grants \(EJSG\) Program](#) placed special emphasis on proposals from under-represented states that have been awarded three or fewer EJSGs over the last five years. Of the [36 total projects selected](#), 23 are from underrepresented



states (64%). The agency will make final awards upon successful completion of the award application process. [Poole]

## **E-Enterprise for the Environment**

[E-Enterprise](#)

### **McDonnell Appointed to E-Enterprise Leadership Council**

This week, ECOS President Todd Parfitt of Wyoming appointed Pennsylvania Department of Environmental Protection Secretary Patrick McDonnell to serve on the E-Enterprise Leadership Council (EELC). McDonnell fills the state EELC vacancy created when John Stine of Minnesota ended his term as ECOS President.

ECOS thanks Stine for his EELC service and welcomes McDonnell to the leadership body. [Graves]

## **Member News**

### **Tormey of Iowa Elected to ACOEL Fellowship**

Congratulations to Ed Tormey, General Counsel of the Iowa Department of Natural Resources, on his election last week as a Fellow of the American College of Environmental Lawyers (ACOEL). Tormey has practiced environmental law in both the private and public sectors for 27 years and also has served as Legal Services Bureau Chief at the Ohio Environmental Protection Agency.

As reported in last week's *ECOSWIRE*, former ECOS member and President Tom Burack also was one of 20 individuals from across the nation elected last week to the College Fellowship at ACOEL's 10th anniversary meeting in Charleston, South Carolina. [Parisien]

## **Career Opportunities**

### **ECOS Seeks Project Manager**

ECOS is accepting applications for a Project Manager to support the work of [E-Enterprise for the Environment \(EE\)](#) and the [National Environmental Information Exchange Network \(EN\)](#). The Project Manager works with senior staff at state environmental agencies, U.S.

EPA, and tribes to support the operation of the EN, and to facilitate its deeply connected and formative role in EE.

To apply for this position, send a resume and cover letter [here](#) by November 30 with subject "Application for Project Manager."

See more information [here](#). [Longworth]

## Upcoming Events

### Meetings

#### **Butler of Ohio to Participate in Disaster and Public Safety Brown Bag on the Hill**

The Sea Grant Association [invites](#) interested attendees to a lunchtime briefing, *Using Science and Outreach to Assist State and Local Decision Makers in Disaster Preparedness and Public Safety*. ECOS member Craig Butler of Ohio will participate in the lunchtime discussion, which is sponsored by Congressmen Lee Zeldin of New York and Joe Courtney of Connecticut.

The event will be held **November 8 at 12-1:30 p.m.** in the Rayburn House Office Building. RSVP by November 3 to [Joel Widder](#). [Piper]

### ECOS Calls

#### **November, December All-Member Calls**

ECOS will hold its remaining two All-Member Monthly Calls in 2017 on:

- **November 16, 4-5 p.m. Eastern** on science and research
- **December 14, 3-4 p.m. Eastern** on data and analytics

Please mark your calendars now. An agenda with dial-in information will be emailed to all ECOS members prior to the call. [Swanson]

### Superfund Workgroup

The ECOS Superfund Workgroup will hold its next call on **November 27 at 2:30-3:30 p.m. Eastern** to continue state-U.S. EPA discussion of implementing the recommendations of the EPA Superfund Task Force. The workgroup is chaired by ECOS Waste Committee Chair Scott Thompson, Director of the Oklahoma Department of Environmental Quality, and has the regular participation of EPA Task Force Chair Kell Kelly, Senior Advisor to the

Administrator, and other EPA leaders.

The call will include a report-out on Superfund discussions at the recent ASTSWMO Annual Meeting by ASTSWMO CERCLA/Brownfields Subcommittee Chair Amy Brittain of Oklahoma and former ASTSWMO Past President Bonnie Buthker of Ohio. Call participants will provide input on the solutions proposed.

For more information, please contact [Lia Parisien](#) of ECOS. [Parisien]

## Shale Gas Caucus

The ECOS Shale Gas Caucus (SGC) will kick off its Phase 3 cross-media webinar series on **December 6 at 2-3 p.m. Eastern** with a discussion of preventing produced water spills and leaks. Moderated by SGC Co-Chairs Dave Glatt of North Dakota and Martha Rudolph of Colorado, the call will feature Scott Anderson and Dan Mueller of the Environmental Defense Fund and Roy Hartstein of Southwestern Energy. Jim Kenney of U.S. EPA's Office of Enforcement and Compliance Assurance will follow with an announcement of an SGC success story in the area of produced water.

For more information, please contact [Lia Parisien](#) of ECOS. [Parisien]

## Webinars

### California on Safer Consumer Products

California's Department of Toxic Substances Control (DTSC) will hold a Safer Consumer Products program public workshop on lead-acid batteries and alternatives on **November 6** in Sacramento, California. The event will be broadcast via webinar and will cover the various uses of lead-acid batteries, the regulatory landscape they face, lithium-iron-phosphate batteries as a potential alternative in vehicles, automobile manufacturer perspectives, and issues such as recycling.

This information is being gathered as part of DTSC's work to evaluate whether lead-acid batteries should be listed as a Priority Product under California's Safer Consumer Products regulations. Public comments and questions are welcome.

Register for the [in-person or webinar](#) and download the [agenda](#) and event [announcement](#). [Longworth]

### U.S. EPA and the Army Corps on WOTUS by Sector

U.S. EPA and the U.S. Army Corps of Engineers have announced ten teleconferences to hear from stakeholders their recommendations for revising the definition of "Waters of the United States" under the Clean Water Act. The first nine teleconferences will be tailored to specific industries, as follows, and the tenth will be open to the public at large.

The teleconferences will run throughout the fall on **Tuesdays at 1-3 p.m. Eastern** as follows:

- **November 7** scientific organizations and academia;
- **November 14** stormwater, wastewater management and drinking water agencies; and
- **November 21** general public. [Piper]

## **ECOS and U.S. EPA on Compliance Research Part 5**

Part 5 of the Compliance Research Webinar Series entitled *Innovative Approaches to Foster Compliance – the Role of Deterrence* will be held on **November 9 at 1-2:30 p.m. Eastern**.

Dr. Sarah Stafford, a Professor at the College of William and Mary working in Economics, Public Policy, and Law, will present the basic theories of compliance and deterrence and the findings of social science research on what techniques are most effective. She also will present some innovative approaches being used in programs across the U.S. to encourage facilities to increase voluntary compliance and to decrease inadvertent violations.

The Compliance Research Webinar Series, hosted by the National Enforcement Training Institute of the U.S. EPA Office of Enforcement and Compliance Assurance and designed for ECOS and U.S. EPA, helps program administrators understand how collaboration with academics can identify effective and measureable approaches to compliance.

For more information, please contact [Sonia Altieri](#) of ECOS. [Altieri]

## **ITRC on Long-term Contaminant Management Using Institutional Controls**

On **November 14 at 1-3:15 p.m. Eastern**, the Interstate Technology and Regulatory Council (ITRC) will host a free online training on institutional controls (ICs), which are administrative or legal restrictions that provide protection from exposure to contaminants on a site.

After attending the training, participants will be able to describe best practices and evolving trends for IC management at individual sites and across state agency programs; improve IC reliability and prevent IC failures; improve existing, or develop new, IC management programs; identify the pros and cons about differing IC management approaches; and more.

Learn more and register [here](#). [Bodi]

## **U.S. EPA on Drinking Water Issues**

U.S. EPA's Office of Research and Development and the Office of Water host a monthly [webinar series on small drinking water systems](#). Their schedule for the rest of the year is:

- **November 15** - National Stormwater Calculator for Managing Runoff
- **November 28** - Lead in Schools and Selecting Lead Free Fixtures
- **December 12** - Residual Chlorine and Calibration Check for Chlorine Instruments

More information on the small systems webinars, including recordings of past webinars and how to register, is available [here](#). [Hanson]

## **U.S. EPA ORD on Cyanobacteria Monitoring**

U.S. EPA's Office of Research and Development will hold its next monthly Tools and Resources webinar on **November 15 at 3-4 p.m. Eastern**.

The webinar will focus on monitoring cyanobacteria with satellites, highlighting how federal agencies (EPA, NASA, NOAA and USGS) are collaborating to use real-world satellite applications that support environmental management of U.S. lakes by quantifying cyanobacterial harmful algal blooms and related water quality parameters. This webinar will also address provisional satellite derived cyanobacteria data and three software tools available to state environmental and health agencies for review and testing as part of the Cyanobacteria Assessment Network (CyAN).

[Register here](#). [Longworth]

## **ITRC on PVI: Fundamentals of Screening, Investigation, and Management**

On **November 16 at 1-3:15 p.m. Eastern**, the Interstate Technology and Regulatory Council (ITRC) will host a free online training on petroleum vapor intrusion (PVI), the process by which volatile petroleum hydrocarbons released as vapors from light nonaqueous phase liquids, petroleum-contaminated soils, or petroleum-contaminated groundwater migrate through the vadose zone and into overlying buildings.

After attending this training, participants should be able to determine when and how to use the ITRC PVI document at their sites; describe the important role of biodegradation impacts on the PVI pathway (in contrast to chlorinated solvent contaminated sites); value a PVI conceptual site model and list its key components; and more.

Learn more and register [here](#). [Bodi]

## **NIH on Wildfire Risk Communication and Health Effects**

On **November 17 at 1-2 p.m. Eastern**, the National Institutes of Health will host a webinar

on the impacts of wildfires on the health of vulnerable individuals and on communities exposed periodically to such events.

The presentations will cover how environmental exposures associated with wildfires affect human health, as well as approaches being used to develop targeted risk communication about wildfires for a variety of audiences.

[Register here.](#)



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ECOSWIRE | Vol. 19 No. 22

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# ECOSWIRE

Friday, June 9, 2017

Vol. 19 No. 22

## Table of Contents

- [ECOS Announces Dynamic STEP Meeting Agenda](#)
- [Workshop Summary Addresses Innovative Approaches to Fostering Compliance](#)
- [ECOS Leaders Join Keystone Energy Board to Discuss U.S. Energy Future](#)
- [State News You Can Use](#)
- [Need-to-Know News in Air, Water, & Chemicals and Emerging Contaminants](#)
- [U.S. EPA News](#)
- [ITRC News](#)
- [Upcoming Events](#)

# ECOS Announces Dynamic STEP Meeting Agenda

ECOS is pleased to announce the [agenda](#) for its sixth annual State Environmental Protection (STEP) Meeting, planned for July 17 in Washington, DC. The interactive one-day gathering, themed *Reframing our Environmental Future*, will center on ECOS' cooperative federalism paper, to be released next week.

Among other highlights, the meeting will feature a luncheon keynote address by Richard Lazarus of Harvard Law School on the environmental future, and will include compelling roundtables that explore roles of various stakeholders in the new model of environmental cooperative federalism.

Specifically, roundtables will address:

- Federal and state roles, strengths, and partnerships;
- The role of corporate goals and measurement systems in achieving environmental results and maintaining license to operate;
- How nongovernmental and community organizations can achieve environmental protection and accountability;
- The role of science, research, and new technology;
- Communicating results, measures, outcomes, and safeguards, and defining success.

[Register for the STEP meeting](#) by **June 23** to receive the discounted registration rate. The hotel group rate is available until **June 26** or until the block is full. Breakfast, lunch, and breaks will be provided.

For more information on the meeting or speaking and sponsorship opportunities, please contact [Layne Piper](#) of ECOS. [Longworth]

## Workshop Summary Addresses Innovative Approaches to Fostering Compliance

A [summary report](#) of *Research on Effective Government: A Workshop on Evaluating Innovative Approaches to Fostering Environmental Compliance* is now available. The workshop, held January 27, in Washington, DC, brought together environmental regulators from state agencies and U.S. EPA with scholars from a variety of disciplines for discussions about how regulators can leverage social science knowledge and research methods to foster compliance.

ECOS Compliance Committee Chair Jim Macy of Nebraska, Air Committee Vice Chair Ben Grumbles of Maryland, Water Committee Chair Craig Butler of Ohio, and other state



environmental agency representatives participated in the workshop.

As a result of the workshop, ECOS and U.S. EPA will host a series of webinars to provide examples of how social and behavioral science findings have informed public health efforts, followed by a discussion of potential compliance programs ripe for analysis. This series will convey what social scientists know about best practices in compliance effectiveness strategies and how pilots can test new ways to improve compliance outcomes.

The webinars will be held on the following dates:

- Introduction – **June 27, 3-4 p.m. Eastern**
- Monitoring – August 9, **3-4:30 p.m. Eastern**
- Rule and Permit Design – **September 28, 2-3:30 p.m. Eastern**
- Reporting and Transparency – **October 24, 2-3:30 p.m. Eastern**
- Innovative Enforcement – **November (TBD)**

For more information, contact [Sonia Altieri](#) of ECOS or [Leslie Cronkhite](#) of U.S. EPA.  
[Altieri]

## **ECOS Leaders Join Keystone Energy Board to Discuss U.S. Energy Future**



Keystone Energy Board Member and ECOS Waste Committee Vice Chair Chuck Carr Brown of Louisiana (left) with ECOS President John Linc Stine of Minnesota.

This week, ECOS President John Linc Stine of Minnesota and Executive Director Alexandra Dunn joined Keystone Energy Board Member Chuck Carr Brown of Louisiana for a meeting of the Keystone Energy Board in Washington, DC.

Currently, ECOS Alumnus Doug Scott (formerly an Illinois member) co-chairs the Board, which for more than 20 years has provided a forum for energy leaders to discuss and debate timely energy and environmental issues.

Topics on the agenda included the future of coal in the U.S. energy portfolio and energy cybersecurity. [Dunn]

## State News You Can Use

[Several States Launch Climate Alliance in Wake of Paris Accord Withdrawal](#)

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[Minnesota Expands Air Quality Monitoring](#)

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[Mississippi Work with Local Governments Yields Record Brownfields Funding](#)

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[Texas Honors Innovators with Environmental Excellence Awards](#)

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[Oregon Holds Free Hazardous Waste Classes for Business and Industry](#)

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[Hoosier Riverwatch Trains Indiana Citizens on Water Quality](#)

## Need-to-Know News in Air, Water, & Chemicals and Emerging Contaminants

**U.S. EPA to Extend Deadline for 2015 Ozone NAAQS Area Designations**

*Area of Focus: [Air](#)*

On June 6, U.S.EPA Administrator Scott Pruitt sent a [letter to Governors](#) informing them that the deadline for promulgating initial area designations under the 2015 National Ambient Air Quality Standards (NAAQS) for ozone will be extended by one year.

Under the Clean Air Act (CAA), EPA is required to issue designations within two years of publication of a new standard, and 2015 ozone NAAQS designations would have been due by October 2017, with state plans due to EPA by August 2017. However, section 107(d) of the CAA authorizes EPA to extend the deadline by up to one year “in the event the Administrator has insufficient information to promulgate the designations.”

The deadline extension allows the states additional time to develop their air quality plans, and allows EPA time to review the 2015 ozone NAAQS prior to taking its initial implementation step.

EPA is currently evaluating components of the 2015 ozone NAAQS with a focus on:

- Fully understanding the role of background ozone levels;
- Appropriately accounting for international transport; and
- Providing timely consideration of exceptional events demonstrations.

Further, pursuant to the language in the recently enacted FY2017 Omnibus funding bill, Administrator Pruitt is establishing an Ozone Cooperative Compliance Task Force to develop additional flexibilities for states to comply with the ozone standard.

For more information, please see this [EPA news release](#). [Poole/Swanson]

## **Strong Interest Demonstrated in WIFIA Funding**

*Area of Focus:* [Water](#)

U.S. EPA's Water Infrastructure Finance and Innovation Act (WIFIA) program has received 43 [letters of interest](#) from prospective borrowers for water infrastructure projects in response to its [Notice of Funding Availability \(NOFA\)](#)

EPA reports that these letters, in which prospective borrowers have requested \$6 billion in loans, demonstrate the pressing need for infrastructure investments and the value of this WIFIA program. WIFIA money can only fund up to 49% of project costs, and the letters detail other funding to be used, including State Revolving Fund loans, private sources, and municipal bonds. [Piper]

## **NGA Releases Energy-Water Nexus Paper**

*Area of Focus:* [Water](#)

The National Governors Association (NGA) released a paper this week entitled [Advancing the Energy-Water Nexus: How Governors Can Bridge Their Conservation Goals](#). The

report looks at opportunities to better design policy to support cost-effective conservation of energy and water resources.

ECOS Executive Director and General Counsel Alexandra Dunn participated in an experts roundtable that contributed to the final product. [Piper]

## **States and U.S. EPA ORD Establish Regular PFC Calls**

*Area of Focus: Chemicals and Emerging Contaminants*

Last week, a small group of states and U.S. EPA's Office of Research and Development (ORD) held a call on challenges surrounding perfluorinated chemicals (PFCs). The discussion focused on analytical methods for identifying and measuring PFCs.

Given broad interest in the topic, the group is being expanded to allow states and ORD to regularly discuss PFC issues. If you or one of your staff would like to be added to the list for future calls, please email Sarah Grace Longworth of ECOS. [Hanson]

## **U.S. EPA News**

### **Patrick Traylor Joins U.S. EPA OECA Team**

Patrick Traylor has been tapped to serve as U.S. EPA as Deputy Assistant Administrator in the Office of Enforcement and Compliance Assurance (OECA). Most recently, Traylor was a partner at Hogan Lovells, a multinational law firm headquartered in Washington, DC and London, where he focused on environmental law and litigation.

He also has held several law clerk positions at the American Chemistry Council, the U.S. Department of Justice (Environmental Enforcement Section), the U.S. Attorney's Office for the Southern District of Texas (Environmental Crimes Section), and the EPA Region 6 Office of Regional Counsel. [Altieri]

## **ITRC News**

*Interstate Technology and Regulatory Council*

### **ITRC Calls for 2018 Technical Team Projects**

ITRC is accepting proposals for 2018 technical team projects. All environmental topics important to states will be considered. Proposals that address the following top priorities identified in the 2016 ERIS/ITRC survey will be ranked higher in the selection process:

- Treatment of drinking water and public water supplies;

- Water and groundwater quality – changing standards;
- New technologies/tools, resources to address remediation of contaminated sites;
- Emerging contaminants comparative risk-based standards and removal technologies; and
- Remedy resiliency and remedy design considerations.

Please follow the [evaluation criteria](#) and use the [proposal template](#) to submit your proposal. Proposals are due by **July 6**. Visit the [ITRC website](#) for more information, or contact Director [Patricia Reyes](#) with any questions. [Bodi]

## Upcoming Events

### Calls

#### Shale Gas Caucus

The ECOS Shale Gas Caucus (SGC) will hold a call on **June 21 at 3-4 p.m. Eastern** to discuss proposed topics for the third phase of its work. Call participants will include SGC Co-Chairs Martha Rudolph of Colorado and Dave Glatt of North Dakota; Scott Anderson, Ben Ratner, and others with EDF; Roy Hartstein of Southwestern Energy; and SGC members. Phase 3 will launch at the September 11-12 ECOS Fall Meeting in Jackson Hole, Wyoming.

A calendar invitation has been sent to SGC members. For more information, please contact [Lia Parisien](#) of ECOS. [Parisien]

### Webinars

#### U.S. EPA on SPeCS for SIPs: Plan Collection Interface

U.S. EPA will conduct a repeat of a June 8 webinar on **June 13 at 2-3:30 p.m. Eastern** to provide state, local, and tribal air agencies an overview of the State Plan Electronic Collection System (SPeCS) for State Implementation Plans (SIPs). This new system, still in its early phases of development, will facilitate the electronic submission, processing, and review of SIPs and certain other state submissions to EPA. The webinar will focus on the “Plan Collection Interface” module of the web-based SPeCS, which will provide easy-to-use screens for air agency users to make submissions to the EPA. Through the webinar, EPA will seek air agency input in order to improve the design and functionality of the final system.

For more information on the webinar, contact [Mia South](#) of EPA. The webinar link is at [here](#). The meeting number is 741 215 540, with password 12345. Call (866) 557-3330 and use conference code 5037663218. After the presentations, recordings of the webinars will

be posted [here](#).

The [SPeCs for SIPs project](#) is part of the E-Enterprise for the Environment model. For more information on this project, contact [Kelly Poole](#) of ECOS. [Poole]

## U.S. EPA on PCB FAST

U.S. EPA Region 9 will hold a webinar on **June 21 at 12:30-2 p.m. Eastern** detailing how to use the [PCB Facility Approval Streamlining Toolbox](#) (PCB FAST), a Lean-based process aimed to reduce the average time for PCB cleanup plan approvals. EPA Region 9 will discuss how it used a Lean Six Sigma event to reduce the cleanup plan application approval by 20% while improving communication, avoiding re-do loops, and strengthening relationships with state partners and the regulated communities.

The webinar is open to EPA, state, and industry attendees. To register, see [here](#). [Longworth]

## U.S. EPA on Public Health Impact of Wildfire Smoke Emissions

U.S. EPA will hold a webinar on the “Public Health Impact of Wildfire Smoke Emissions” on **June 21 at 3-4 p.m. Eastern**. The webinar will focus on the agency’s 2016 [Wildfire Smoke: Guide for Public Health Officials](#), which educates those affected by wildfire smoke on how to reduce exposure, what public health actions are recommended, and how to communicate air quality to the public.

The webinar is open to state environmental and health agencies, tribes, local governments, communities, stakeholders, and others interested in learning about steps to reduce health effects from wildfire smoke emissions.

To register, click [here](#). [Longworth]

## U.S. EPA on Water Issues

U.S. EPA has two ongoing webinar series addressing clean water and small water systems. The Office of Research and Development (ORD) hosts a series on [water research](#), with the following monthly webinars scheduled:

- **June 21** - Nonpotable Water Reuse in Urban Environments
- **August 30** - Nutrients: Weatherizing, Salinization, and Evolution of Urban Water
- **October 25** - Life Cycle Assessment as a Decision Support Tool

More information on the water research webinar series, including how to register, is available [here](#).

In addition, ORD and the Office of Water host a monthly [webinar series on small drinking water systems](#). Their schedule for the rest of the year is:

- **June 27** - Treatment for Harmful Algal Blooms and Associated Toxins and Funding for Upgrades
- **July 25** - Water Loss and Distribution System Infrastructure: Leak Detection and Cost Savings
- **August 29** - Treatment and Control for Manganese and Iron
- **September 26** - Small Systems Research DeRISK Center
- **October 31** - State Acceptance of UV Disinfection Technologies
- **November 28** - Lead in Schools and Selecting Lead Free Fixtures
- **December 12** - Residual Chlorine and Calibration Check for Chlorine Instruments

More information on the small systems webinars, including recordings of past webinars and how to register, is available [here](#). [Hanson]



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**To:** Flynn, Mike[Flynn.Mike@epa.gov]  
**From:** Sustainable City Network  
**Sent:** Thur 6/8/2017 12:13:09 AM  
**Subject:** Top News: Bitter Reaction as Trump <br>Bails on Climate Accord

[View this e-mail in your browser.](#)

June 7, 2017

FROM OUR VALUED SPONSOR

**Crescent Electric:** High Bay LED lights have a 50,000 hour life expectancy and a 5-year warranty. [Contact us for an energy audit.](#)

# Bitter Reaction as Trump Bails on Climate Accord

## 257 U.S. Mayors Beg to Differ

By Randy Rodgers  
Publisher & Executive Editor

Some of the 257 U.S. mayors, members of the Mayors National Climate Action Agenda, who recently released an open letter to President Trump to oppose his actions thus far against climate action.

The sustainability community erupted with nearly universal dismay, outrage and resolve in the face of President Donald Trump's

decision to pull the United States out of the Paris climate agreement

promise, pitting his administration against the 77 percent of U.S. citizens who believe climate change is a clear and present danger, and joining only the countries of Syria and Nicaragua in defiance of the accord, which was signed by nearly 200 nations.

The administration's official website at WhiteHouse.gov claims the Paris deal "created a taxpayer funded U.N. climate slush fund," an idea made popular by conspiracy theorists who believe the United Nations' effort to combat climate change is a veiled attempt to erode American sovereignty. Citing disputed facts about the cost in jobs and the "negligible" environmental benefits of the pact, Trump said the Paris Accord was "negotiated badly" by the Obama administration and imposed unrealistic carbon reductions on the U.S. "while giving countries like China a free pass for years to come."

In justifying his decision, Trump famously said, "I was elected to represent the citizens of Pittsburgh, not Paris." That statement ignored two important facts: 1) In the 2016 presidential election, Hillary Clinton won 75 percent of the vote in the city of Pittsburgh; and 2) Pittsburgh and Paris are actually on the same planet, which is really what the Paris Accord was all about.

[Read More...](#)

True North: Make your health plan more sustainable! [Click here for more information.](#)

## Latest News

### Cities Selected for Equitable Economic Development Fellowship

WASHINGTON -- National League of Cities, PolicyLink and the Urban Land Institute announced the selection of six additional cities for pa...

### APPA, National Lab to Improve Electric Reliability

WASHINGTON -- The American Public Power Association has signed a Memorandum of Understanding with the Lawrence Berkeley National Laborat...

### NY to Help Farmers Cut Energy Costs and Utilize Clean Energy

ALBANY, N.Y. -- Governor Andrew Cuomo announced the release of a comprehensive strategic plan to help farms across New York State cut energy c...

FROM OUR VALUED SPONSOR

## **DOT Announces \$527 Million in Infrastructure Grants to**

Elaine L. Chao announced the Federal Aviation Administration will award \$527.8...

## **CaGBC launches Canada's first Zero Carbon Building Standard**

VANCOUVER, B.C. -- The Canada Green Building Council has taken a major step toward achieving Canada's climate change commitments with the laun...

## **Blue Accounting to Protect Great Lakes Source Water**

ANN ARBOR, Mich. -- The Great Lakes Commission recently brought together water professionals from around the Great Lakes basin to discuss regi...

**Suez. Ready for the resource revolution - [Learn more at Suez-na.com](http://Suez-na.com)**

## **Energy Department Adds \$20 Million in Research Awards**

WASHINGTON -- The U.S. Department of Energy announced it is honoring additional commitments to 10 previously selected Advanced Research ...

## **EPA: Atlanta Area Attains 2008 8-Hour Ozone Standard**

ATLANTA -- The U.S. Environmental Protection Agency announced that it is taking final action to approve the state of Georgia's request to...

## **Energy Department to Fund 19 Tribal Energy Projects**

WASHINGTON -- The U.S. Department of Energy Office of Indian Energy Policy and Programs announced funding for 19 Indian tribes to take t...

## **EPA Brownfields Cleanup Funding Announced for Earth Conservancy**

WASHINGTON -- The U.S. Environmental Protection Agency selected 172 communities and organizations across the country including Earth Con...

## **Practice Greenhealth and ACCO Announce Partnership**

WASHINGTON -- Practice Greenhealth is constantly looking for

### **Online Course**

#### **Lean Thinking: Process Mgmt Made Easy**

Sustainable City Network and NWETC have teamed up to offer this 6-hour online course June 20-22 on the Lean process improvement system.

This course will challenge your ideas about how you think about and evaluate the work you do.

Our Lean Master

ways to enrich your experience as an organizational member. One way is by c...



### **Adventist Health System Receives Gallup Great Workplace Award**

ORLANDO, Fla. -- Adventist Health System has been named a 2017 Gallup Great Workplace Award winner. This marks the seventh consecutive year th...

### **HHS Announces Over \$70 Million in Grants to Address Opioid Crisis**

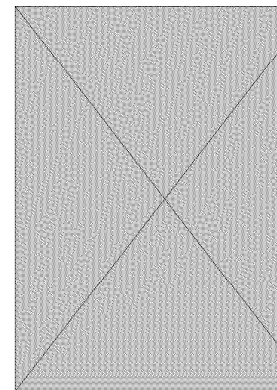
RANCHO SANTA MARGARITA, Calif. -- Applied Medical, a developer and provider of minimally invasive surgical devices, announced the completion o...  
WASHINGTON -- U.S. Department of Health and Human Services Secretary Tom Price, M.D., announced the availability of more than \$70 millio...

### **Econolite Introduces EOS Traffic Control Software**

ANAHEIM, Calif. -- Econolite recently introduced EOS traffic controller software. EOS is a next-generation, easy-to-use, web-based user interf...

### **Orion Lighting to Upgrade VA Hospitals to LED Lighting**

MANITOWOC, Wis. -- Orion Energy Systems, a designer and manufacturer of high performance, energy-efficient LED retrofit lighting products, ann...



### **Vol. 23: Read it now**

certified instructor,  
Brion Hurley, is  
principal Lean  
consultant at  
Rockwell Collins.  
He will introduce  
the history of Lean  
concepts, derived  
from the Toyota  
Production System,

and explain how  
and why they have  
come full-circle  
back to the United  
States.

Results of Lean  
initiatives have led  
to increased  
customer and  
stakeholder  
satisfaction,  
reduced costs,  
reduced risks,  
increased sales,  
and more flexible  
and agile  
organizations.  
Perhaps the largest  
benefit has been  
more engaged  
employees, where  
people enjoy the  
work they do.

Examples of Lean  
successes can be  
found within city  
and state agencies,  
utilities, nonprofits,  
law firms, military,  
public schools,  
startup companies,  
movie studios and  
even farming!

[Read more...](#)

## Online Course

### Creating a Sustainability Strategy

Sustainable City  
Network will present  
a webinar series in  
July for any  
personnel who are  
responsible for  
developing  
sustainability plans,  
greenhouse gas  
emission  
inventories, climate

Sustainable City Network operates a website ([www.sCityNetwork.com](http://www.sCityNetwork.com)), customized e-newsletters, online training, conferences and other interactive tools dedicated to providing quality and timely information on sustainability products, services and best practices for government, education and healthcare.  
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**Sustainable City  
Network**  
801 Bluff St. for a  
Dubuque, IA 52001,  
563.588.3853 or  
institution.

Sent to [flynn.mike@epa.gov](mailto:flynn.mike@epa.gov). [Unsubscribe](#) | [Update Profile](#)

The 6-hour online course, Creating a Sustainability Strategy for Your Organization, will be delivered live on July 11-13. Sessions will be recorded so registrants may attend live or via on-demand streaming video.

This course, featuring veteran instructor Antonia Graham, will focus on the implementation and strategic thinking that is required to implement a Sustainability Plan. This course will teach you how to incorporate storytelling and systems thinking into a strategic plan that gets your plan implemented and enables you to move the needle further and faster to create a more sustainable community.

This course will be presented in three 2-hour sessions held on consecutive days, July 11-13. (Group rates available on the registrations page.)

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**From:** ECOS  
**To:** Flynn, Mike  
**Sent:** 4/14/2017 6:28:19 PM  
**Subject:** Record Number of Attendees Gather for Successful Spring Meeting, Arizona DEQ Invites States to Lean Rollout, & More

ECOSWIRE | Vol. 19 No. 14

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## ECOSWIRE

Friday, April 14, 2017

Vol. 19 No. 14

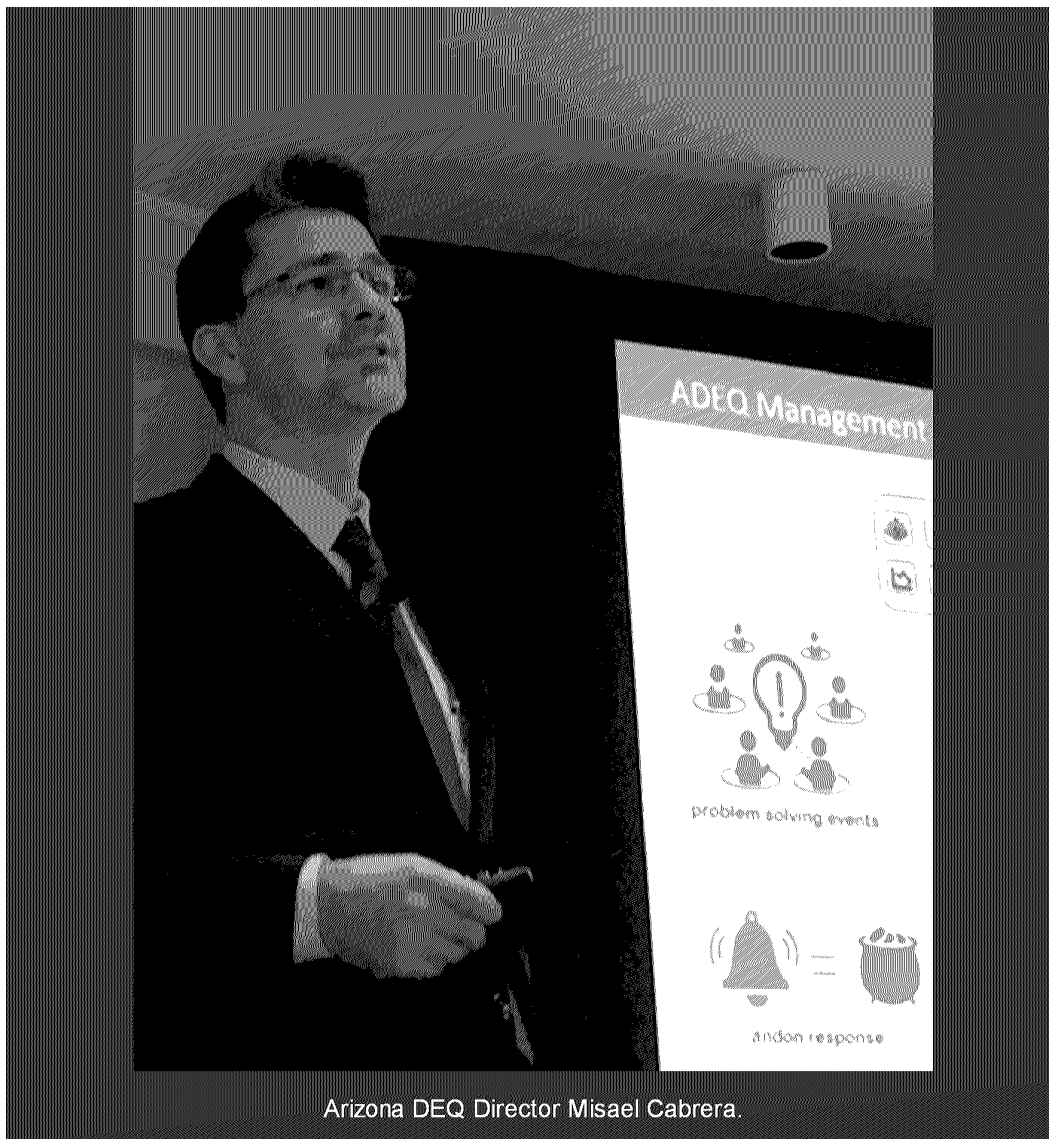
### Table of Contents

- [Record Number of Attendees Gather for Lively and Productive ECOS Spring Meeting](#)
- [Arizona DEQ Invites State Observers for Lean Management System Rollout](#)
- [E-Enterprise for the Environment Engagement Forum Spotlights Successful Projects](#)
- [Martineau Testifies on Behalf of ECOS at House Hearing on Brownfields](#)
- [ECOS Members Speak to the National Academies](#)
- [ECOS Launches Facebook Page](#)
- [ECOS Wants to Hear about State Plans for Earth Day Festivities](#)
- [State News You Can Use](#)
- [Need-to-Know News in Water & Air](#)
- [Federal Agency News](#)
- [U.S. EPA News](#)
- [Appointment & Career Opportunities](#)
- [Upcoming Events](#)



# Record Number of Attendees Gather for Lively and Productive ECOS Spring Meeting

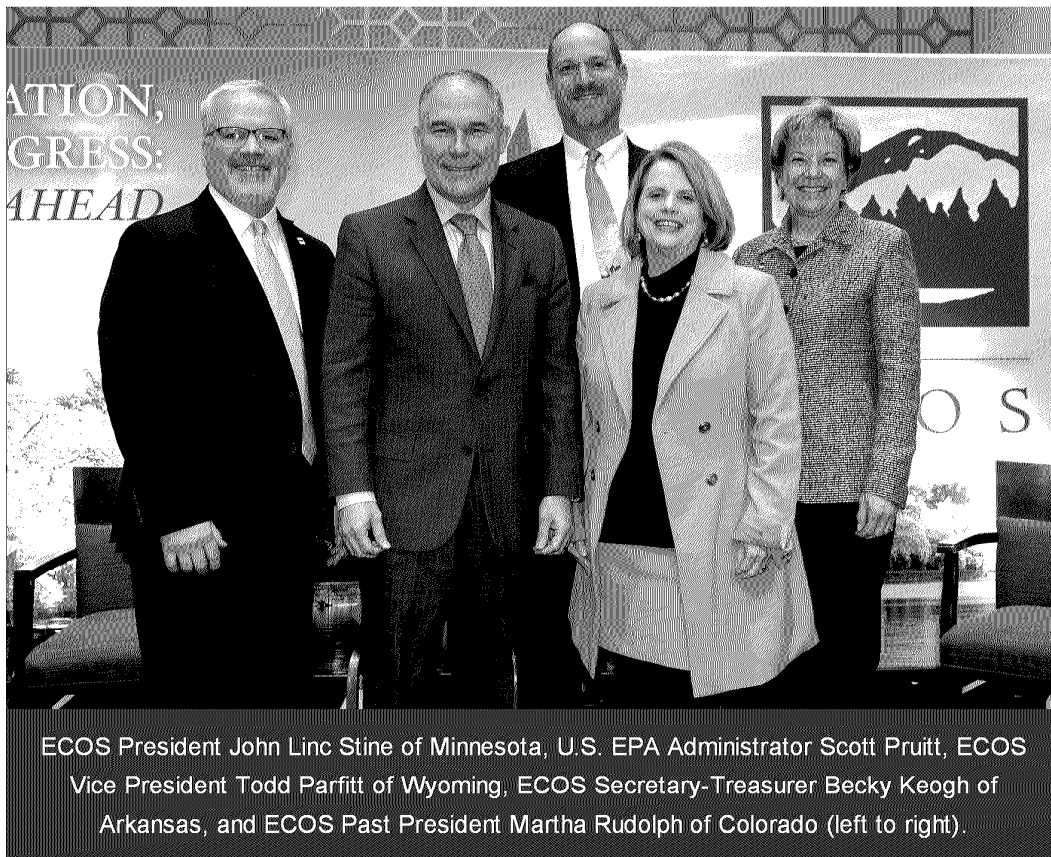
A record-setting 273 attendees representing 45 states and the District of Columbia, federal agencies, non-governmental organizations, and industry gathered last week in Washington, DC, for a wide-ranging and well-received ECOS Spring Meeting. Highlights of the two-day public gathering included a rousing luncheon keynote by Arizona Department of Environmental Quality Director Misael Cabrera on the need for agencies to embrace change (see related story) and a roundtable with former U.S. EPA leaders Bob Perciasepe and Jeff Holmstead on the potential challenges of implementing regulatory reform.



Arizona DEQ Director Misael Cabrera.

Also headlining the meeting was U.S. Senate Committee on Environment & Public Works Chairman John Barrasso (R-WY), who outlined priorities including reform of the Endangered Species Act and streamlined permitting and indicated that President Trump's

budget likely will not be accepted by Congress. ECOS attendees later heard for the first time as a group from EPA Administrator Scott Pruitt. The new EPA chief emphasized his priorities of rule of law, process review, and cooperative federalism. Noting that 40 percent of the country is in nonattainment of the National Ambient Air Quality Standards (NAAQS), Pruitt expressed a desire to focus on compliance assistance in partnership with states.



A series of engaging discussions rounded out the two days of public sessions. They touched on beneficial reuse of produced water, environmental infrastructure, the energy future, states and the Volkswagen settlement, community engagement, Sustainable Materials Management, and compliance improvement. The ECOS Data Management Workgroup and Environmental Research Institute of the States also met for side discussions.

During a Saturday morning business session, ECOS members passed eight resolutions and extended three more to the Fall Meeting. One new resolution discusses the value of supplemental environmental projects and their value to states. Other topics addressed in successful resolutions are safer chemicals, the respectful use of data, lead wheel weights, and small community challenges. Resolutions on NAAQS and water infrastructure investment were tabled for follow-up on the April 20 All-Member Call (see related story). The call also will cover ECOS efforts to move ahead to strongly represent states in the current dialogue with U.S. EPA over state and federal roles.

ECOS sincerely thanks the following for their sponsorship of the Spring Meeting: Natural Resources Defense Council, The Nature Conservancy, Diesel Technology Forum, American Fuel & Petrochemical Manufacturers, Bloomberg BNA, National Association of Clean Water Agencies, American Water Works Association, Edison Electric Institute, Center for Climate & Energy Solutions, Walmart, American Gas Association, Entergy, U.S. Business Council for Sustainable Development/Pathway 21, MDB, Inc., American Coalition for Clean Coal Electricity, Waste Management, and National Association of Manufacturers.

Links to meeting materials and a list of attendees are available [here](#). For additional coverage of meeting activities, see the following *Inside EPA* articles, which are reprinted with permission: [\*States Plan Proposals to Achieve EPA Goals in Lieu of Agency Guidance\*](#) and [\*States Urged to Craft Plans for EPA's Delegation of Environmental Work\*](#). [Parisien/Hanson]

## **Arizona DEQ Invites State Observers for Lean Management System Rollout**

As discussed at the Spring Meeting, the Arizona Department of Environmental Quality (ADEQ) continues to deploy its Lean Management System in several of its program offices and is opening the process to observers from other ECOS member agencies. This management system was the focus of ADEQ Director Misael Cabrera's recent ECOS meeting keynote, and the agency has previously hosted state and foreign government delegations seeking to learn from its experiences.

ADEQ has offered states the opportunity to send delegations of up to two people to one of a series of week-long deployment "evolutions" that will be taking place April 24-August 7. Attendance is first-come, first served, and some evolutions may be open to U.S. EPA delegations as well. ADEQ is also offering to share training materials used in the rollout with the observer states.

For more information, contact [Leah Rossow](#) of AZDEQ via email or at (602) 771-2309. [McAleer]

## **E-Enterprise for the Environment Engagement Forum Spotlights Successful Projects**

[\*E-Enterprise for the Environment\*](#)

More than 200 stakeholders met on April 5 at the Mayflower Hotel in Washington, DC, to attend the first ever engagement forum for E-Enterprise for the Environment. The purpose of the forum, which followed a meeting of the E-Enterprise Leadership Council, was to

highlight many of the E-Enterprise projects that benefit the regulated community, states and tribes, and the federal government. More than 15 projects were on display for attendees, who were able to participate in hands-on demonstrations and speak to subject matter experts.

The featured projects covered an array of topics, including ensuring safe drinking water, submitting and receiving reports electronically to save time and resources, customizing reports, and reporting air emissions data.

To view photos of the event, visit the ECOS Twitter page at [twitter.com/ECOSstates](https://twitter.com/ECOSstates) and the new ECOS Facebook page at [facebook.com/ECOSstates](https://facebook.com/ECOSstates). Subscribers to Bloomberg BNA can read a story about the event [here](#). [Lane]

## **Martineau Testifies on Behalf of ECOS at House Hearing on Brownfields**

*Area of Focus:* [Waste](#)

On April 4, former ECOS President Robert Martineau testified on behalf of ECOS before the House Subcommittee on the Environment and the Economy at a hearing on a discussion draft for Brownfields reauthorization. Martineau, Commissioner of the Tennessee Department of Environment & Conservation, highlighted the benefits of the Brownfields program, pointing to several key projects in communities around Tennessee. Martineau went on to discuss the importance of liability protection in reducing risk for investors, citing local Tennessee examples of Brownfields successes which led to job creation, environmental improvement, and economic stimulation at formerly dormant properties. His written testimony can be found [here](#).



Robert Martineau testifies on Brownfields reauthorization.

Subcommittee Chairman John Shimkus (R-IL) discussed the subcommittee's intent to reauthorize and improve the program, calling it vital to states and local communities. Members of the subcommittee also gave the program high marks as they asked witnesses to comment on how aspects of the draft, such as liability protection, multipurpose grants, and funding increases, would yield improved results. State and local witnesses emphasized the importance of Brownfields grants in conducting site assessments and leveraging private investment.

Shimkus closed the hearing calling for continued coordination with ECOS and others as the discussion draft moves forward. More information on the hearing can be found [here](#).  
[MacCartney]

## ECOS Members Speak to the National Academies

On April 10, ECOS members Ben Grumbles of Maryland, David Paylor of Virginia, Martha Rudolph of Colorado, and Bryan Shaw of Texas met with members and staff of the Division of Earth and Life Studies (DELS) of the National Academies of Sciences, Engineering, and Medicine. DELS members and staff spent the afternoon speaking with ECOS members and state association staff to better understand states' needs and how they can work with them.

Martha Rudolph, ECOS Past President and ERIS Board Member, provided a brief overview of what it takes to run a state environmental agency. ERIS President David Paylor addressed state research needs. In one panel session, ECOS members discussed what might help the National Academies foster a productive relationship with states. A separate panel session with state association staff discussed how state associations can serve as a conduit between DELS and states. [Hanson]

## ECOS Launches Facebook Page

ECOS is now on Facebook! You can visit our page and read relevant news stories, view photos from events, and keep up-to-date with relevant ECOS and state information. We're easy to find at [facebook.com/ECOSstates](https://facebook.com/ECOSstates). You can also type Environmental Council of the States or simply [@ecostates](https://twitter.com/ecostates) in the search bar.

Make sure you "like" and "follow" our page when you visit, and contribute to our page with relevant posts. Also be sure to share our page with your colleagues and friends.

## ECOS Wants to Hear about State Plans for Earth Day Festivities

How is your state celebrating Earth Day? If your agency is hosting an event, advertising environmentally friendly practices on social media, or promoting the day in another way, ECOS wants to hear about it.

This year, ECOS is compiling a list of the "Top 10" state Earth Day initiatives. Please send information on efforts that your state has underway for Earth Day **by April 19** to [Sarah Grace Longworth](#) of ECOS. [Longworth]

## State News You Can Use

[Ohio EPA Pioneers Materials Marketplace to Promote Reuse and Recycling](#)

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[Minnesota Considers Strengthening Successful Renewable Energy Standard](#)

## **Need-to-Know News in Water & Air**

### **Pruitt Notifies States of Reconsideration of Power Plant Effluent Guidelines Rule**

*Area of Focus:* Water

This week, U.S. EPA Administrator Scott Pruitt sent ECOS President John Stine of Minnesota a letter to notify states of EPA's intent to consider petitions for reconsideration of EPA's November 2015 final rule establishing Effluent Guidelines and Standards for the Steam Electric Power Source Generating Point Source Category. The petitions, submitted by the Utility Water Act Group and the U.S. Small Business Administration's Office of Advocacy, specifically seek relief from deadlines set by the final rule.

This rule contains flexibilities for states that issue National Pollution Discharge Elimination System permits. The permitting authority may determine a date when the new effluent limitations apply to any given discharger within a specified period of time. Permitting authorities may choose a later date within that time period based on information received from the discharger. Under the rule, Publicly Owned Treatment Works must meet new pretreatment standards by November 2018.

EPA will stay the rule for 120 days while it considers relief from the deadlines for both direct and indirect discharges, and also will revisit other substantive aspects of the rule. According to the agency, Pruitt's letter reinforces his stated commitment to working with states and local communities to improve the environment and bolster the economy while respecting the rule of law. [Piper]

### **DOJ, U.S. EPA File Motions to Hold Cases Regarding Ozone, Methane, and Carbon Emissions**

*Area of Focus:* Air

In accordance with a March 28 Executive Order signed by President Trump, U.S. EPA is reviewing existing regulations that potentially burden domestic energy production. On April 7, the Department of Justice, on behalf of U.S. EPA, submitted motions to hold two cases in abeyance until the current Administration is able to determine if and how it wants to address the rules at issue – the 2015 ozone NAAQS and the 2016 methane rules for new

oil and gas operations.

These motions come on the heels of the Administration's request to hold the Clean Power Plan (CPP) case in abeyance and a motion in opposition of that hold submitted by NY, CA, CT, DE, HI, IL, IA, ME, MD, MA, MN, NM, OR, RI, VT, VA, WA, DC, and six cities on April 5, which was then met with a reply brief from DOJ/EPA in support of putting a hold on the case. To date, the D.C. Circuit has not yet ruled on whether it will hold the CPP case or the case addressing 2016 methane rules in abeyance.

However, on April 11, a three-judge panel at the U.S. Court of Appeals for the District of Columbia Circuit released an order delaying oral arguments in the case challenging the 2015 ozone NAAQS. The 2015 ozone NAAQS case was originally brought by the Murray Energy Corporation after U.S. EPA promulgated a rule to lower ozone standards from 75 parts per billion (ppb) to 70 ppb in October 2015. EPA has spent the past year defending the rule; however, on April 7, the agency submitted a motion requesting an indefinite delay of the oral arguments as the current Administration reviews its position and determines whether EPA should "reconsider the rule or some part of it." While there is no timetable for review completion, the court is requiring the EPA to report back on the status of its review every 90 days. [Poole]

## Federal Agency News

### OMB Issues Guidance on Federal Restructuring and Workforce Reduction

The White House Office of Management and Budget (OMB) this week released a memo that provides guidance to federal agencies on how to fulfill the requirements of President Trump's Reorganization Executive Order to make the government "lean, accountable, and more efficient." The 14-page memo provides wide-ranging guidance on how to achieve this.

Portions that may be of particular interest to ECOS members include developing agency reform plans that include how they will "better leverage technology and improve underlying business processes" and "streamline and eliminate processes." This appears to align well with E-Enterprise for the Environment and business process improvement initiatives in which ECOS has been involved. According to the memo, OMB will be looking at cross-cutting reforms to address situations where "multiple federal agencies interact in fragmented or duplicative ways with state, local, and tribal governments." It also will be looking for opportunities to reduce reporting burdens.

ECOS staff will track implementation of this memo as closely as possible over the next several months, as there are deadlines in June and September for agency reform plans and much of the restructuring ties to the President's budget proposals. [Hanson]



# U.S. EPA News

## Beachhead Leader Benton Departing U.S. EPA

The White House announced this week that Don Benton, who led President Trump's beachhead team at U.S. EPA, is departing the agency. President Trump intends to nominate Benton for Director of the Selective Service System, the independent agency that would oversee a potential military draft.

Benton served as Trump's Campaign Chairman in Washington State. He was a State Senator there for 20 years and was also Director of the Clark County Environmental Services Department. [Parisien]

## Appointment & Career Opportunities

### Water Experts Sought for National Academies Committee

The National Academies of Sciences, Engineering, and Medicine is seeking [nominations](#) for committee members to serve on a new study that will help guide research at the U.S. Geological Survey Water Mission Area. The study will identify the most compelling national water resource challenges and science and research needs for the next 25 years and consider integrating across science disciplines.

Areas of expertise needed include: surface and groundwater quality and quantity, water resources, and water use and availability for humans and the environment. [Nominations](#) are due **April 28**. [Hanson]

### Utah Hiring Water Quality Director

The Utah Department of Environmental Quality seeks a Director for their Division of Water Quality. This individual will become a member of the agency's Executive Management Team and be responsible for developing programs to promote and protect the waters of the state.

For more information, see [here](#). To be considered for this opportunity, email your resume and cover letter to [anelsen@utah.gov](mailto:anelsen@utah.gov) by **April 24**. [Longworth]

## Upcoming Events

# Exchange Network

## Updated EN2017 Agenda Now Available

The EN2017 Program Committee is pleased to present an updated [2017 Exchange Network National Meeting Agenda](#). Sessions and descriptions have been added for this year's event. Don't miss your chance to engage at EN2017 on **May 16-18** in Philadelphia!

The updated agenda reflects this year's theme: Innovation and Partnership. Some of the topics to be covered in peer-to-peer learning opportunities and interactive discussion sessions include:

- Shared services
- Identity management
- Advanced monitoring
- Combined Air Emissions Reporting (CAER)
- Innovations in water monitoring data
- ICIS-NPDES
- Mobile applications
- Process improvement
- E-Enterprise for the Environment
- Communicating success in environmental management
- Harnessing APIs and cloud technology

Registrants are reminded to book their rooms ahead of the **April 21** hotel deadline. State, territory, and tribal participants are eligible to apply for travel reimbursement, and EN2017 is open to all interested parties,

For all the latest information, please visit <http://www.exchangenetwork.net/en2017>. [Ortiz]

## Calls

### ECOS All-Member Call

ECOS will hold an All-Member call on **April 20 at 3-4 pm Eastern**. The call will focus on reviewing resolutions and discussing the ECOS' next steps on cooperative federalism and the state-federal relationship in the new Administration.

Please contact [Megan Swanson](#) of ECOS for more information. [Longworth]

### ECOS Toxic Substances Reduction Workgroup

ECOS's Toxic Substances Reduction Workgroup will hold its next monthly call on **April 25**

**at 3 p.m. Eastern.** The call likely will feature updates to U.S. EPA's regulations under the Lautenberg Act, including those of recent chemical prioritization and risk evaluation proposals, as well as the process for the TSCA inorganics byproduct negotiated rulemaking.

If you have any questions or would like to be added to the workgroup, please contact [Sarah Grace Longworth](#) of ECOS. [Longworth]

## **Webinars**

### **U.S. EPA on Plastics and Microplastics**

U.S. EPA's Trash Free Waters program is hosting two webinars in April related to plastics and microplastics contaminating waters.

On **April 18 at 1 p.m. Eastern**, Dr. Bart Koelmans will discuss the chemicals found in or on microplastics and their potential risks in "Contaminants Associated with Microplastics."

On **April 26 at 4 p.m. Eastern**, Dr. Denise Hardesty will present information on risk assessment of plastics and microplastics in the environment during "Risk Assessment of Plastics and Microplastics."

To attend the webinars log in to [here](#) at the appropriate time. [Hanson]

### **ITRC on PVI: Fundamentals of Screening, Investigation, and Management**

ITRC will hold a web-based training on **April 18 at 1-3:15 p.m. Eastern** on its technical and regulatory guidance document entitled [Petroleum Vapor Intrusion \(PVI\): Fundamentals of Screening, Investigation, and Management \(PVI-1, 2014\)](#). The training will provide regulators and practitioners with consensus information based on empirical data and recent research to support PVI decision making under different regulatory frameworks. The PVI assessment strategy described in this guidance document enables confident decision making that protects human health for various types of petroleum sites and multiple PHC compounds.

Learn more and register [here](#). [Bodi]

### **U.S. EPA on Challenging Nutrients Coalition**

U.S. EPA will host a webinar on **April 19 at 3-4 p.m. Eastern** on its public-private coalition to address the issue of excess nitrogen and phosphorous levels in water. This interdisciplinary coalition has representatives from over 80 organizations, including federal agencies, states, nonprofits, manufacturers, researchers, and for-profit industry. The

coalition will focus on understanding requirements and needs, and helping to provide technology solutions and support. It will also discuss innovative projects and partnerships improving nutrient monitoring.

State environmental and health agencies, tribes, local governments, communities, and other stakeholders are invited to participate. To join the webinar, please register [here](#). If you are unable to listen through your computer speakers, please dial (866) 299-3188 and enter access code 2025646669. Please contact [Lisa Matthews](#) of U.S. EPA for more information or [Amy Scheuer](#) with registration questions. [Piper]

## **ITRC on Geospatial Analysis for Optimization at Environmental Sites**

ITRC will hold a web-based training on **April 20 at 1-3:15 p.m. Eastern** on its guidance document entitled [ITRC's Geospatial Analysis for Optimization at Environmental Sites \(GRO-1\)](#). The training will educate and train state regulators and other practitioners on using geospatial analyses to evaluate optimization opportunities at environmental sites.

Learn more and register [here](#). [Bodi]

## **U.S. EPA on Assessing and Addressing Near-Road Air Quality with Easy Modeling**

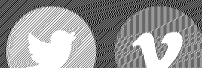
A U.S. EPA webinar on **April 20 at 2-3:30 p.m. Eastern** will present the [Community-LINE Source Model \(C-LINE\)](#), a user-friendly, near-road air pollution model. C-LINE allows users to evaluate how changes in traffic may affect air pollution. Users can easily manipulate model inputs to also examine upwind and downwind effects, or estimate the areas most influenced annually by near-road pollution.

[Register here](#) to attend the webinar and learn more. [Hanson]

## **ECOS on Performance Partnership Grants**

On **April 26 at 2:30 p.m. Eastern**, ECOS will hold a webinar for states on U.S. EPA's Performance Partnership Grants (PPGs). The webinar will include information on how PPGs work, the benefits they provide, and best practices for managing them. Information on states' use of PPGs will be provided through case studies and ECOS statistics, and there will be an opportunity for Q&A.

To register, click [here](#). For more information, please contact [Owen McAleer](#) of ECOS. [McAleer]





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**Cc:** dgreenbaum@healtheffects.org[dgreenbaum@healtheffects.org]; Robert O'Keefe[ROKeefe@healtheffects.org]; Kelley-Anne Clisham[kaclisham@healtheffects.org]; Rashid Shaikh[RShaikh@healtheffects.org]  
**From:** Rashid Shaikh  
**Sent:** Tue 4/25/2017 6:14:26 PM  
**Subject:** HEI Annual Update  
[HEI Annual Update 2017.pdf](#)

Dear HEI Sponsors:

We are pleased to share with you – as we normally do at this time of year – the HEI Annual Update for Sponsors, a detailed recounting of what we have accomplished in the second year of implementing the HEI Strategic Plan 2015 – 2020 and a description of our plans for the coming year. We look forward to hearing your thoughts on these accomplishments and the next steps!

Thanks again for your interest in and support of HEI.

Rashid

Rashid Shaikh, Ph.D.

Director of Science

Health Effects Institute

75 Federal Street, 14<sup>th</sup> Floor

Boston, MA 02110

(617) 488-2301

[rshaikh@healtheffects.org](mailto:rshaikh@healtheffects.org)

[www.healtheffects.org](http://www.healtheffects.org)

April 2017

## ***HEI ANNUAL UPDATE***

### **Report to HEI Sponsors on Year Two Progress**

*The HEI Strategic Plan 2015 – 2020*

For the Period April 1, 2016 to March 31, 2017

During the second year of implementing the HEI Strategic Plan 2015 -2020, HEI has made significant progress on several important scientific fronts. We have completed major research, published a number of reports in advance of key decision processes, and moved forward a number of major projects outlined in the HEI Strategic Plan which HEI developed in 2015 with input from EPA, industrial sponsors, and other stakeholders. Specifically, HEI has made important progress in four major areas:

- ***Addressing the Challenges of Multi-Pollutant Science***
- ***Improving Science For Decisions: Accountability and Transparency***
- ***Emerging Fuels and Technologies***
- ***Global Health Science***

HEI's progress in each of these areas – and in addressing several important *crosscutting issues* -- is summarized below, and in the attached Tables of Ongoing Research (Appendix A), Forthcoming Reports (Appendix B), and Publications (Appendix C). We also describe our progress on Quality Control and Quality Assurance activities at the end of this narrative. During year two, we have been following the timelines laid out in Figure 6 of the Strategic Plan, and anticipate staying on track for completion during subsequent years.

### ***Addressing the Challenges of Multi-Pollutant Science***

During 2015-2020, HEI proposed to focus its research in two broad areas:

- Estimating the Effects of Exposures to Low Levels of Air Pollution
- Understanding Emissions, Exposures, and Health Effects of the Air Pollution Mixture

In planning and conducting new research on these topics, HEI also indicated it would enhance its efforts to have the resources and the ability to catalogue the underlying data and ultimately make them available to other investigators once the studies have been published.



## Estimating the Effects of Exposures to Low Levels of Air Pollution

### *Multipollutant Studies in Large Populations to Estimate the Effects of Exposure at Low Concentrations*

Levels of ambient air pollution have declined significantly over the last decades in North America, Europe and in other high-income regions. Nonetheless, recent epidemiologic studies report adverse health effects even at these lower levels of exposure. In order to inform future risk assessment and regulation, it is important to know whether adverse effects continue to be observed as levels of air pollution decline still further, and what is the shape of the exposure-response function is at those low levels; these issues currently represent one of the major remaining uncertainties in air quality standards decisions. HEI proposed to (1) evaluate the most important issues regarding the low-exposure questions that need to be addressed before research can be undertaken and (2) identify opportunities where such research can be implemented.

**Year Two Progress** Following an expert workshop in June 2014 which focused on the first question identified above, HEI issued a request for applications in late fall, 2014. After careful peer-review of the applications, HEI decided to fund three studies, engaging highly qualified investigator teams in examining air pollution and health relationships in various large existing cohorts in North America and Europe. In selecting these studies, the Research Committee paid particular attention to, among other issues, how exposure estimates will be made in the proposed studies and how exposure-estimation errors were to be considered; what populations would be studied and the quality of health information available; and, adequacy of the methods proposed to investigate the relationship between exposure and effects. The following studies began during Year Two.

- **Michael Brauer**, University of British Columbia, Vancouver. *Identifying the shape of the association between long-term exposure to low levels of ambient air pollution and the risk of mortality: An extension of the Canadian Census Health and Environment Cohort using innovative data linkage and exposure methodology.* This study will closely test and extend analyses in one of the populations where low level studies have been done previously, with a total population size of approximately 6 million.
- **Bert Brunekreef**, University of Utrecht, the Netherlands. *Mortality and morbidity effects of long-term exposure to low-level PM<sub>2.5</sub>, black carbon, NO<sub>2</sub> and O<sub>3</sub>; an analysis of European cohorts*, which will conduct a pooled analysis in key populations from the European ESCAPE study; and companion analyses in six large administrative cohorts, with a population size of approximately 25 million; and,
- **Francesca Dominici**, Harvard School of Public Health, Boston. *Assessing adverse health effects of long-term exposure to low levels of ambient pollution, including development of methods for methods for causal modeling.* This study will conduct detailed and innovative analyses in the U.S. Medicare cohort, with a population size of approximately 56 million.

**Plans for Year Three** The three teams are making good progress with their research and have completed a number of initial steps – such as agreements for data access, plans for exposure assessment –

within each team. HEI has appointed a special oversight group to augment the Research Committee in oversight of these important studies and established detailed quality assurance programs for the studies. The investigators ‘meet’ periodically by webinars to discuss issues of mutual interest. HEI held a workshop with the investigators during its 2016 Annual Conference just as the studies were beginning and a similar workshop, including a special session with sponsors, is planned in conjunction with the 2017 Annual Conference.

### *Effects of Low Levels of Ozone on the Cardiovascular System*

Studies on the acute effects of ozone have largely focused on pulmonary effects – indeed, such effects are the basis for the current ozone NAAQS – and effects on the cardiovascular system have not received detailed attention. Several epidemiological studies that included assessment of associations with specific causes of death have reported some associations of ambient exposures to ozone with cardiovascular mortality. In 2011, HEI initiated the Multicenter Ozone Study in Elderly Subjects (**MOSES**), the largest and most rigorous study ever conducted to investigate whether short-term exposure of older, healthy volunteers to near ambient levels of ozone in a controlled exposure setting induces acute cardiovascular responses. The MOSES investigators tested 87 subjects at three levels of ozone (0, 70 and 120 ppb).

**Year Two Progress** Testing of subjects was completed during Year One. As HEI often does while reviewing studies with potential regulatory interest, the HEI Review Committee has formed a special review Panel, chaired by Dr. James Merchant, Chair of the Committee, to review and evaluate the final report and write a commentary on the report. During Year Two, the Review Panel peer-reviewed the investigators final report. In response to the Panel’s comments, the investigators performed additional analyses and revised the report. Additionally, the investigators presented their work at the HEI Annual Conference in May 2016, followed by a short summary of the initial evaluation by the Panel. And, the investigators developed plans for other analyses of the data to be completed during year 3.

**Plans for Year Three** The Review Panel will write a commentary on the study and HEI will publish the report early during Year Three. HEI will provide advance briefings to sponsors before the report is released. During Year Three, the investigators will also analyze the data to examine the potential effects of exposure to air pollution prior to the experimental exposure. Finally, HEI plans to make provisions to provide full access to MOSES data to interested scientists and analysts.

## **Understanding Emissions, Exposures, and Health Effects of the Air Pollution Mixture**

HEI envisioned three elements to focus on in understanding the effects of the Air Pollution Mixture:

- Examining exposures and health effects from traffic and port sources,
- Understanding the changing nature of diesel source emissions and effects, and

### *Examining Exposures and Health Effects from Traffic and Port Source Mixtures*

The introduction of cleaner fuels and technologies promises progress for the future as transportation fleets are replaced and the use of new fuels become more widespread. However, there continues to be the need for targeted, advanced and innovative exposure and health research to inform likely future questions on

reducing such exposures and effects, and other factors contributing to such effects. At the same time, the rapid growth in global ocean-going freight movement, and expansion of the Panama Canal have drawn increasing attention to the growth of port activity and goods movement in transportation corridors (roads and rail) leading to and from them, and the potential for increased exposures in communities residing in the vicinity of such ports and transportation corridors. More broadly, there is growing attention to the fuller range of potential effects of transportation and mobility decisions for public health. These trends pose several major scientific challenges and opportunities for HEI to consider:

#### *Enhanced, Place-Based Exposure and Health Studies*

The HEI Special Report 17, *Traffic-Related Air Pollution: A Critical Review of the Literature on Emissions, Exposure, and Health Effects* and subsequent expert workshops identified a critical need for enhanced traffic exposure assessment, applying the newest sensor and analytic techniques. In addition, certain special aspects of the traffic pollution mix are of great interest, including ultrafine particles, the effect of changing fleet composition on emission and exposure, non-tail pipe emissions, and possibly coarse particles.

**Year Two Progress** HEI has funded several studies employing diverse approaches but all aimed at enhancing exposure assessment. During Year Two, HEI published a study by Dr. **John Molitor** (modeling of multipollutant exposure profiles). Four teams completed their research and submitted their reports for review – **Benjamin Barratt** (Hong Kong 3-D exposure assessment), **Jeremy Sarnat** (traffic related exposure in Atlanta dorms), **Edmund Seto** (sensor-based exposure assessment) and **Juana Maria Delgado-Saborit** (real-time sensors for exposure assessment). And, four other teams continued their research – **Stuart Batterman** (Bayesian melding methods), **Charles Frey** (near road pollutant concentrations), **Xioliang Wang** (emissions at two previously studied tunnels) and **Petros Koutrakis** (characterization of non-tailpipe emissions).

**Year Three Plans:** In addition to the four studies listed above that are in the review process, we expect to receive final reports from Batterman, Frey and Wang which will also enter the HEI review process. After review, the Review Committee will also prepare commentaries on these reports and publish them during Year Three or Year Four.

#### **New Research**

**Year Two Progress** While the research summarized above was nearing completion, HEI began planning for the future stage of its research on place-based exposure assessment and health studies because of strong sponsor interest. As the first step of this process, HEI held a workshop on research needs to assess effects of traffic exposure in May 2016 to assist the Research Committee in planning a research program in this area. About forty leading researchers participated, including members of the HEI Committees and sponsors. The agenda consisted of plenary presentations and working group discussions about key research gaps, the research designs that might best address them, and the major methodologic challenges this work will need to consider. Emphasis was placed on how to disentangle the effects of traffic-related air pollution and traffic noise and how to account for the impact of social and psychosocial factors. Other topics covered were advances in ambient and personal monitoring, exposure metrics,

models and measurement errors (including potentially those from indoor exposures) and knowledge gaps regarding health effects of traffic exposure. The recommendations of the workshop formed the basis of a Request for Application that HEI, issued in January 2017, and titled “Assessing Adverse Health Effects of Exposure to Traffic-related Air Pollution, Noise, and their Interactions with Socio-Economic Status.”

**Plans for Year Three** During Year Three, applications received in response to this RFA will be peer-reviewed and the best studies will be selected for funding. HEI expects to fund four or five studies under this RFA and expects that these studies will begin near the end of Year Three.

#### *The State of Knowledge Regarding Health Effects of Traffic-Related Air Pollution*

In the Strategic Plan 2015-2020, HEI sponsors also expressed strong interest that HEI systematically review the recent literature and update its 2010 report on traffic-related air pollution. This review is intended to complement other reviews that are currently underway at the Centers for Disease Control and Prevention (CDC) and National Toxicology Program (NTP). During Year Three, HEI plans to form a panel to take initial steps to review the literature.

#### *The Changing Nature of Diesel Source Emissions and Effects*

HEI has long played a key role in improving our understanding of exposure to diesel emissions and their effects. As described below and in the section on *Emerging Fuels and Technologies*, HEI has continued several such activities.

During Year One, HEI published two important documents concerning diesel emissions. First, HEI published *Diesel Emissions and Lung Cancer: An Evaluation of Recent Epidemiological Evidence for Quantitative Risk Assessment*. After closely reviewing recent diesel epidemiology studies, the HEI panel concluded that the studies were well planned and carefully performed, and are useful for applying the data to calculate the cancer risk due to exposure to diesel exhaust. The Panel noted, however, that efforts to apply these studies to estimate human risk at today’s ambient levels will need to consider the much lower levels of emissions from newer technology diesel engines as well as the limitations identified in each study. Second, also in Year One, HEI published *Executive Summary -- The Advanced Collaborative Emissions Study (ACES)*, which summarized the main findings of emissions and health testing of new technology heavy-duty diesel engines capable of meeting US 2007/2010 and EURO VI/6 diesel emissions standards; ACES was a major program that HEI had completed during the previous Strategic Plan.

**Progress During Year Two:** HEI continued to communicate the results of both the publications during Year Two. Specifically,

- HEI staff presented these findings at a number of national and international meetings and conferences, including EPA Clean Air Act Advisory Committee (Washington DC), 2017 Conference of the International Society of Environmental Epidemiology (Rome, Italy), and the ECT-2016 Conference (New Delhi, India).
- Our staff and investigators also published a paper based on the ACES work in a peer-reviewed journal: Costantini Maria G, Imad Khalek, Jacob D. McDonald and Annemoon M. van Erp.

2016. The Advanced Collaborative Emissions Study (ACES) of 2007- and 2010-Emissions Compliant Heavy Duty Diesel Engines: Characterization of Emissions and Health Effects. Emission Control Science and Technology 2:215–227

**Plans for Year Three** During Year Three, HEI will continue to communicate the findings and conclusions of the two initiatives. Because old technology diesel engines are still widely used in developing countries, HEI's communication efforts will also extend to international as well as regional and country level meetings and conferences.

## ***Improving Science for Decisions: Accountability and Transparency***

### **Health Outcomes (Accountability)**

HEI's interest and commitment to health outcomes studies stems in large measure from the importance of assessing whether potentially costly and complex regulations and other interventions are yielding the demonstrable improvements in air quality and public health that were initially projected. In addition, lessons learned about regulatory efficacy from these studies are a means of informing the design and implementation of future efforts to improve air quality. HEI defined initial concepts and methods with the publication of a major Monograph (HEI Communication 11, 2003). Subsequently, HEI published other documents in the literature and has funded a successful first wave of studies, which largely evaluated local interventions occurring over relatively short periods of time. HEI built on lessons learned from those first wave studies to inform a next wave of research to address larger state and regional regulatory programs occurring over longer periods of time and to develop additional tools to conduct such complex studies.

In 2011 HEI issued RFA 11-1 seeking proposals to study the effects of specific regulatory programs to improve air quality with a focus on large scale multi-year regulatory programs; complex regulations in large urban areas and around major ports; and improved methods to support outcomes research. Together, these studies signaled a move into research and tools to assess outcomes of core environmental regulations at the state and national level that impact the health of the broader public.

**Progress in Year Two** Four studies were underway during Year Two. Two of these studies were reviewed and published by HEI: one focused on statistical methods to better assess large national databases (**Cory Zigler**) and the other on evaluating changes in children's health in response to regulations in southern California (**Frank Gilliland**). A study on the impact of air quality regulations in the Southeastern U. S. has entered the HEI review process (**Ted Russell**), and a study goods movement regulations in California is continuing (**Ying-Ying Meng**).

**Plans for Year Three (and beyond)** HEI will complete the review and publish the report by Russell during Year Three; the Meng study will continue.

The four HEI studies provide some of the first attempts to evaluate large scale regulations; however, there are many continuing and tough challenges, e.g. due to concurrent changes in a range of

environmental, health, individual and socio-economic variables and due to the implementation of multiple regulations within the same time frame as the regulation of interest. More work remains to be done because evaluation of regulatory effectiveness is critical to ensuring public health and minimizing cost. As these second wave studies reach completion and publication during the early part of the Plan, HEI is planning a special session at its 2017 Annual Conference to inform discussions to review the progress to-date and to explore next steps.

## **Improving Data Access**

A commitment to transparency and data access is a very important aspect of HEI's activities and is a condition clearly stipulated in HEI's research contracts with all investigators. Applicants for the three studies on the effects of low levels of exposure described above were required to submit their plans for making their data and analytic methods available once their studies are completed; their applications were judged in part on their ability to fulfill this requirement. HEI is currently working with the MOSES investigators to make the data from this study accessible. Similar requirements for transparency and access to data will continue to be a requirement in all HEI studies, for example for the new traffic and health studies.

## ***Emerging Fuels and Technologies***

HEI has long provided critical information on key emerging questions relevant to vehicles and fuels, including emerging diesel technologies, alcohol fuels, and manganese and MBTE as fuel additives. More recently, HEI undertook a major initiative – the Advanced Collaborative Emissions Study (ACES) – to characterize emissions from new technology 2007- and 2010-compliant heavy duty diesel engines and assess the health effects of emissions from a 2007 engine in laboratory animals. Additionally, through the Special Committee on Emerging Technologies (SCET), HEI has established a mechanism to obtain and provide an ongoing understanding of emerging new technologies and fuels.

In view of concerns about not only air pollution but also climate change and energy requirements, there is a need to find new solutions to enable mobility for the public, while overcoming problems related to climate, energy security, and cost, along with air pollution. Recent regulatory activities in Europe, the United States, the State of California and many other parts of the world have been specifically focused on combating various aspects of this set of challenges. This situation also provides the impetus for development and introduction of a broad range of new fuels, technologies, and sources of energy to meet the needs of the transportation sector. Over the next five years, any health concerns that may arise from the use of new fuels and technologies will remain a priority for HEI research.

## **Special Committee on Emerging Technologies (SCET)**

SCET is a key advisory body established by the HEI Board in 2000 to aid HEI in identifying emerging fuels and technologies with a high likelihood of coming to market, so that HEI can effectively evaluate, plan, and initiate timely research and assessment of their likely health implications and potential unintended consequences. SCET is composed of experts knowledgeable about fuels, technologies, health,

and future trends from industry, government, academia, sponsors, and environmental organizations. HEI plans to convene SCET as needed at key points in the Plan.

### **Traditional and Advanced Technology Diesel Engines:**

Even since its inception in 1980, HEI has been involved in extensive research on diesel emissions and their health effects. During the last Strategic Plan, HEI initiated two critical initiatives in this area and reported their results during Year One of the current Plan. These initiatives and HEI activities to communicate their findings are described above.

**Plans for Year Three** HEI will continue to communicate the results of ACES and the diesel epidemiology panel report, and their implications at national and international forums.

### **Fuel Composition and PM**

**Progress during Year Two** HEI hosted workshop in December on the “Effects of Fuel Composition on PM.” The workshop was prompted, in part, by growing concerns regarding PM emissions from modern gasoline vehicles, and the complex effects that fuel composition (particularly ethanol blending) and engine technology (particularly gasoline direct injection) have on PM emissions. The main goal of the workshop was to provide an overview of research on the effects of fuel composition on PM, including both primary emissions and secondary formations. More specifically, presentations and discussions at the workshop focused on: (1) The key lessons from laboratory emission tests of gasoline engines in terms of the impact/benefits of ethanol, aromatics and gasoline direct injection (GDI) technology? (2) The connections between emission tests (including the effects of fuel and technology) under laboratory/certification conditions and real-world emissions and exposures. (3) The challenges to meeting the US Tier 3 and California LEV 3 standards? This workshop was attended by approximately 45 participants representing regulatory bodies, the automobile and fuel industries, academic and governmental research organizations, and trade organizations. All the presentations made during the workshop are available on the HEI website.

**Plans for Year Three** HEI is preparing a summary of workshop proceedings which will be published on its website.

### **Other Important Issues**

In addition to the topics discussed above, there are several other issues that HEI will continue to monitor, with assistance from SCET and the Research Committee, especially in the context of any health effects concerns they may represent. Such issues include:

- *Diesel Emissions:* Though enormous progress has been made in reducing emissions from diesel engines during the past decade, there are continuing challenges and advances in this area and HEI will keep abreast of noteworthy trends. There are concerns about difficulties in meeting the NO<sub>x</sub> emission standards using selective catalytic reduction during low-load, start-and-stop and cold-start conditions.

Additionally, there is a strong interest in diesel engines that emit lower concentrations of NO<sub>x</sub> than today's engines meeting the 2010 standard. Proposals for such ultra-low NO<sub>x</sub> engines are being made especially for areas such as the Los Angeles basin that have had difficulty complying with the ozone standard. Engine manufacturers and the emissions control industry are currently developing various approaches to meet these challenges. Another area of interest is diesel engines that are being marketed for non-road applications and that do not use a particulate filter. It does not appear likely that such engines can meet the more stringent PM standards for on-road engines, but HEI will keep an eye on developments in this area as well. Finally, HEI will keep apprised of the developments about how the NO<sub>x</sub>-defeat software, deployed in Volkswagen vehicles, is corrected and whether such remediated engines would raise any air quality or health concerns.

- *Toxicity of Emissions from Emerging Vehicle Technologies and Fuels:* HEI is interested in identifying a set of toxicity tests that can be applied to mobile-source inhalable pollutants and that reflect health-effects end-points of interest from air pollution exposure. During Year One, HEI had an extensive discussion with members of its Research Committee, some of whom are very familiar with the ongoing and larger efforts at toxicity testing at the EPA, National Toxicology Program, Interagency Coordination Committee on the Validation of Alternative Tests and other research organizations. The experts advised HEI that such efforts are being actively pursued at a large scale by these and other organizations, and they recommended that HEI keep abreast of their activities and scientific developments. The Committee felt that it would be preferable for HEI to allow time for these efforts to advance further so that their findings and results can be applied to HEI's own work. HEI will revisit this area again during Year Three to learn more about the status of the field.
- *Gasoline Direct Injection and UFP Emissions:* With GDI-equipped vehicles representing approximately 50% of light duty sales in the US, the question of emission of UFPs from such vehicles is a continuing issue, even as the emissions of PM from the diesel fleet continue to decline. As mentioned above, HEI is currently reviewing research proposals in response to RFA 17-1 focusing on the impact of traffic-related air pollution; measurement and potential effects of traffic-generated UFPs, to be considered in the context of the larger mixture, are highlighted in this RFA. In addition, the HEI workshop on "Fuel Composition and PM" described above, included detailed discussions of studies examining GDI engines; presentations from these studies are available on the HEI website and their findings will also be excerpted in the workshop summary that HEI is preparing.
- *Low Carbon Fuels: Potential Health Effects Issues* As discussed above, the Energy Policy Act (2005) mandates the use of increasing amounts of renewable fuels in the coming years. At the same time, increasing attention is being paid to the identification and increased use of "low-carbon" fuels. Though the implementation of the higher amounts of renewable fuels required under the law is lagging behind for a variety of complex reasons, most gasoline sold in the US today is a 10% ethanol blend and biodiesel is often blended with diesel in many parts of the country. The December "Fuel Composition and PM" workshop considered some of the recent data on biofuels and emissions, and HEI and SCET will continue to monitor whether the emissions from the use of such fuels may have any public health impact, given that their use is very widespread, and identify potential new questions for investigation as they arise.



## ***Global Health Science***

Benefitting from financial support from foundations and international organizations, HEI has worked carefully for many years to establish itself as a global source of trusted, independent science on air pollution and health. This year, as in the past, HEI regularly draws on its high quality science conducted in the US and internationally to inform increasingly important regulatory, policy and technology decisions in Europe and the developing world. This work is important for a range of reasons:

- Levels of annual and daily air pollution in China, India and even parts of Eastern and Central Europe exceed WHO standards by wide margins. The most recent Global Burden of Disease estimates (2015) reported ambient air pollution associated with 4.2 million premature deaths annually. These and related health impacts affect both local populations and international staff working in these areas.
- Transport of pollutants, including ozone, PM and greenhouse gasses from developing Asia to Japan and Western US can increase domestic background levels, potentially impacting health and increasing the burden of local compliance,
- HEI's industry sponsors operate in a global marketplace and HEI can help provide quality science to encourage consistent regulatory and technology decisions.

It is in the interest of regulators and the regulated community alike to support high quality science, capacity building, and active communication to equip developing nations to understand and respond to the health, economic, and environmental benefits associated with pollution reduction to realize local and global benefits. In addition, China and India, in particular, are in the midst of ongoing energy, transportation, fuel and policy decisions that will shape infrastructure and emissions levels for many years, and are in need of quality health impact information to inform these decisions.

### **Progress in Year Two:**

*Global Burden of Disease:* The Global Burden of Disease (GBD) is the most comprehensive and credible worldwide assessment of mortality and disease, and the risk factors associated with them ever undertaken. GBD is overseen by the Institute for Health Metrics and Evaluation (IHME), with HEI staff providing leadership for the Working Group that identifies the methods and approaches for conducting the air pollution impact estimates. GBD's now annual estimates provide the foundation for HEI's work to identify national, sub-national and source specific impacts described below:

- During year two HEI worked with IHME, and others to collect expanded health and emissions data, design new analytic infrastructure and update models needed to support the publication in October of GBD 2015.
- HEI also provided leadership in the Air Quality Working Group that led to the April 2017 publication in *The Lancet* of estimates and 25-year trends of the global burden of disease attributable to ambient air pollution that underpins much of HEI's work in this area.

*GBD-MAPS*: During year two HEI built on its core GBD analysis to publish its initial GBD-Major Air Pollution Sources Report (GBD-MAPS) for China. This source-specific report on the impact of coal and other major sources of air pollution (e.g. transportation, agriculture industrial, and household) provided the first ever widely credible assessment of coal combustion in China at the national and provincial level that, among other things, puts impacts from transportation in the context of the broad range of sources.

- HEI worked in collaboration with its technical working group anchored at Tsinghua in China (with scientists from India (IIT), Europe, US, Canada and other worldwide experts) to identify the health and mortality impacts from coal combustion, transportation, industry, household, agriculture, biomass, and selected other sources at the national and provincial levels, allowing tracking of relative levels of pollution and health impacts in different areas. Results were presented in key forums and to leading policy makers in Asia and the West.

*The State of Global Air 2017* (SOGA): SOGA is the first in an annual series of concise, dynamic and understandable reports and an interactive website that identify the extent of air pollution health impacts worldwide and on a country-by-country basis. HEI released SOGA in February 2017. It made results from GBD available in understandable terms for governments, scientists and citizens worldwide; offered the underlying data for download; and compared those results to WHO and other leading studies consistently and clearly.

- SOGA highlighted the public health impact of air pollution from all indoor and household sources worldwide and enabled tracking of long term and current trends on a country by country basis and underscored HEI' role as a trusted source and go-to institution for independent information on air pollution impacts worldwide

Taken together GBD, GBD-MAPS and SOGA are an integrated, sustainable platform that leverages the credibility of the broader GBD to report regularly on air pollution, identify and track source specific impacts, and provide access to data and information.

Building on this platform, HEI is regularly invited to present science from its core work on:

- ACES results on new technology diesel and their potential in developing Asia
- PM and ozone studies and their relevance in evaluating the need for new air quality guidelines by WHO and in the EU's consideration of whether to establish limit values
- Emerging work on whether health effects exist at very low levels of air pollution and the health impacts of exposure to traffic related pollutants.

During Year Two, HEI presented in many international forums, briefing sponsors and key groups about key finding from HEI science. This includes ACEA, CONCAWE, DG Environment, and European Environmental NGOs as well as a range of Indian and Chinese officials.

**Plans for Year Three:** HEI's Global Health Science Efforts will continue on five major fronts in year three:

- *Global Burden of Disease*: HEI will work to improve data and methods in support of the annual publication by IHME of GBD 2016
- *GBD MAPS*: HEI will work with its Indian and other partners to write, peer review and publish GBD-MAPS India, identifying the source specific impacts of multiple sources in India
- *State of Global Air*: HEI will publish its second annual SOGA in early 2018. In the second edition of this flagship publication, HEI will synthesize what is known about the health impacts of air pollution from GBD, provide access to data that underlies GBD estimates, and compare those results with WHO and other major studies in consistent and clear fashion,
- *Global Air Quality Guidelines*: HEI scientific staff and other experts will be actively engaged in ensuring that the best quality science is available to inform the WHO development of the next round of WHO Global Air Quality Guidelines, and ultimately European Limit Values.
- *Global Interaction and Communication* HEI will continue to pursue active communication of its results to government leaders, scientists, stakeholders, sponsors and experts worldwide.

## ***Cross-Cutting Issues***

In reviewing the detailed major opportunities for new research that HEI proposed in the Strategic Plan 2015 – 2020, a number of other questions were identified that would not by themselves be programs of research in the new Strategic Plan, but we view these as cross-cutting issues that should be integrated into all of HEI's work. Some examples include:

***Development, Application, and Testing of Multi-pollutant Statistical Models and Methods*** - HEI has had a long term commitment to, and record of success in, the examination of key statistical challenges, such as model selection and development, application, and testing of cutting-edge statistical models and methods to analyze the relation between air pollution and health.

**Year Two Progress** HEI published two research reports on statistical methods: a report by **Corwin Zigler** on causal inference models and another by **John Molitor** on modeling of multiple pollutants.

**Plans for Year Three** The development of new methods is an important component of HEI new research program on low levels of exposure to air pollutants, as discussed above. The studies funded under this RFA, particularly one by **Francesca Dominici**, will develop and apply new causal modeling methods to estimate exposure-response functions, while adjusting for confounding and exposure measurement error. They will develop tools for reproducible research including approaches for data sharing, record linkage, and statistical software. Also, traffic studies funded under RFA 17-1 are also very likely to develop and apply novel methods for multipollutant analyses. Finally, HEI expects to review and publish a report based on the study by Stuart Batterman (Bayesian melding methods).

***At Risk Populations***: A not insignificant part of the interest in enhanced monitoring of roadside exposures to criteria pollutants such as NO<sub>2</sub> and PM<sub>2.5</sub> is the disproportionate representation of certain groups of people living in proximity to roads, such as those with lower socioeconomic status and peoples

of color who may receive inadequate medical care and/or have other underlying health conditions that may raise their sensitivity to the adverse effects of air pollution. Also potentially of concern are other populations in these settings with certain underlying diseases that can increase sensitivity to the exposures (e.g. children and adults with asthma or diabetes). Proximity itself does not establish effects, but rigorous HEI studies with enhanced exposure assessment could help determine whether those populations are more sensitive and better characterize the extent of health effects in those populations.

**Year Two Progress** HEI published research reports for studies conducted by: **Allison Fryer** (animal model of response to ozone for asthma), **Jun Wu** and **Zhengmin Qian** (both studies in pregnant women and reproductive outcomes), and **Frank Gilliland** (lung development in adolescent children).

**Plans for Year Three** HEI anticipates publishing research reports based on the **MOSES** study (elderly subjects, cardiovascular endpoints) and the **JC Chen** study (elderly subjects, neurocognitive effects). HEI is also funding two ongoing studies looking at at risk populations: the **Jane Clougherty** study (SES effects in New York City) and the **Monica Guxens** study (autism spectrum disorder). Additionally, RFA 17-1 “Assessing Adverse Health Effects of Exposure to Traffic-related Air Pollution, Noise, and their Interactions with Socio-Economic Status,” has an explicit focus on the impact of SES; studies funded under this RFA are expected to start near the end of Year Three.

***Enhanced Exposure Assessment*** – Accurate and reliable exposure assessment has been one of the cornerstones of HEI’s research programs. As described above HEI has funded several studies targeted at improving assessment of exposure to air pollutants; continued efforts to enhance exposure assessment will be central to every major research program HEI undertakes under its new Plan. In addition, an essential component of HEI’s low exposure studies is an assessment of exposures using satellite and other innovative methods. Enhanced exposure assessment will also be a key feature of the studies HEI funds under the traffic RFA (17-1) discussed above.

**Plans for Year Three** As discussed above, HEI anticipates publishing several research reports during Year Three (or early Year Four). In addition, research under the traffic RFA is expected to begin in the latter part of Year Three.

***Application of New Biologic Techniques in Air Pollution Health Research*** - In the recent past, there has been an explosion in knowledge in the biologic and medical sciences, with a concomitant increase in availability of methods to explore biological and pathological phenomena. However, given the very large number of approaches and techniques from modern biology that may be applied to environmental health problems and the “high-risk” nature of such investigations, HEI does not plan to initiate a specific program in this area, but will seek specific targets of opportunities to incorporate new biologic techniques into HEI sponsored research. Along similar lines, HEI will encourage investigators to include “biomarkers” in their research studies.

During Year Three , HEI will publish the results of its **MOSES** study which includes an analysis of GSTM phenotype and its effects in the 87 elderly subjects tested. This study will also report on a large number of other biomarkers. Another HEI study by **William Kraus**, expected to be completed during the

coming year and enter the review process, is examining gene-by-air quality effects on cardiovascular risk biomarkers and blood-based whole genome expression profiles.

***Other Health Outcomes and Modifying Factors*** - The effects of air pollution on the respiratory and cardiovascular systems have been extensively studied. Also, the effects of many factors (for example, smoking) have been relatively well characterized. During the last decade, researchers have begun to focus also on the influence of exposure to air pollution to other health outcomes, such as reproductive, neurologic and immunologic effects. However, such effects have not been very extensive and there is a need for more research in these areas. HEI will look for opportunities where research in these areas can be incorporated into its ongoing research program, particularly under the new RFA on traffic related air pollution.

**Year Two Progress** HEI published three research reports that have examined the effect of air pollution exposure during pregnancy (**John Molitor, Jun Wu and Zhengmin Qian**). Additionally, the study by **J.C. Chen**, expected to be published during Year Three, will report on the impact of air pollution on brain structure and its consequences.

***Capacity building: Support of early-career investigators*** - Across its research program, HEI has successfully supported capacity building and career development for promising investigators at early stages of their career through the Walter A. Rosenblith New Investigator Award program. Since 1999, HEI has supported 22 new investigators at this crucial stage, i.e. when they need to establish their own laboratories and research programs, and are working to get tenure. The New Investigator program remains important in the current climate of reduced research spending, which is particularly challenging for beginning investigators. Given the successful track record of the New Investigator program HEI is committed to continuing it over the next 5 years and beyond. Through this program HEI supports investigator-initiated research in a wide variety of fields, including epidemiology, statistics, toxicology, and exposure sciences, provided that the proposed research is in line with the broad research goals described in the current Strategic Plan.

**Year Two Progress:** HEI published two reports based on studies by Rosenblith awardees, **Jun Wu** and **J.C. Chen**. Other Rosenblith investigators continued their research.

**Plans for Year Three:** HEI expects to publish a report by **J.C. Chen**, and expect to receive a report from **Jason Surratt** which will enter our review process. Other Rosenblith awardees, who will continue their research during year two, are **Sally Ng, Lydia Contreras, and Kymberly Gowdy**, and the 2016 Rosenblith awardee, **Monica Guxen**, has begun her research.

## ***Key Personnel***

During the reporting period, there has been no change in the principal HEI staff. Among HEI Committees, there have been the following changes:

### **Research Committee:**

- No changes

**Review Committee:**

- Michael Brauer (University of British Columbia, Canada) and Bert Brunekreef (Utrecht University, the Netherlands) stepped down at the conclusion of their terms, in accordance with HEI bylaws.
- Jennifer Peel (Associate Professor and Section Head of Epidemiology in the Department of Environmental and Radiological Health Sciences at Colorado State University) was added to the Review Committee. Dr. Peel also holds an appointment in the Colorado School of Public Health. She is an environmental epidemiologist whose research focuses on evaluating the health effects of air pollution, both ambient air pollution in the U.S. and indoor air pollution from biomass cook stoves in Central America. Her research includes projects examining the short-term exposures and health impacts experienced during commuting; evaluating the cardiovascular, respiratory, and adverse birth outcomes in relation to air pollution; investigating cardiovascular and metabolic-related endpoints in relation to exposure to biomass emissions in Honduras; and engaging stakeholders and identifying research needs regarding energy and air pollution in Colorado. Dr. Peel has worked with the Environmental Protection Agency on criteria ambient air pollutants, is a reviewer for multiple agencies including the National Institutes of Health and the Health Effects Institute, and is an Associate Editor for Environmental Health Perspectives. Jennifer received her PhD and MPH degrees from the Rollins School of Public Health, Emory University, Atlanta.

***Quality Control and Quality Assurance Activities***

In implementing its *Strategic Plan*, HEI has employed extensive procedures to ensure that its sponsored research meets that best possible standards of quality control and quality assurance, as described in the “Health Effects Institute Quality Management Plan.” HEI uses diverse processes to assure the quality of the research funded by HEI and the quality of reporting the results in the final reports.

Broadly, the processes for evaluating applications, studies and reports include:

- Requirement for detailed project plans and methods description in research applications
- Review by external peers, chosen for experience in areas directly relevant to the applications, and in-depth discussion by the Research Committee, led by members with relevant expertise
- A Research Agreement that lays out requirements in detail, including reporting and QA/QC requirements
- Comprehensive study oversight procedures, including
  - a 10-month progress report each contract year, which includes results and plans and budget for the next year (see below), and
  - Site visits, webinars and workshops to discuss planning, coordination or information sharing among funded investigators, as needed. At the HEI annual conference, all funded investigators also present posters, which provides opportunities to HEI committees, sponsors and other scientists to learn about HEI funded research.
- Preparation and submission by the investigators of a comprehensive final report, including all results (positive and negative), discussion of results and conclusions.
- Rigorous and detailed review of final reports by the HEI Review Committee, culminating in the preparation of a Commentary on the background to the study, its strengths and limitations, soundness of conclusions and its implications for human health and policy.

- The abovementioned features are required for all studies; in addition, for major studies – particularly those involving human subjects – we contract with third-party quality assurance experts, who conduct site visits where they audit data, observe activities to check compliance with procedures, and review quality control measures. They may also audit the data presented in the final report.
- Communication of the final report and Review Committee’s commentary widely, by posting on HEI website, by print publication, by briefings and presentations and by inclusion in HEI newsletters and other publications. All reports are also excerpted by bibliographic databases such as MedLine.

### Study Oversight

A key aspect of HEI’s study oversight is the yearly contract renewal which is based on an evaluation of a detailed progress report, which includes a renewal request, submitted by the PI at 10 months of the contract year. The report presents progress, results, and problems encountered over the past year as well as a budget and plans for the following year’s work. The Staff Scientist overseeing the study reviews the report and prepares a summary memo with comments that is sent to the entire Research Committee along with the progress report. The report is carefully reviewed by 2 or 3 Committeemembers specifically assigned to the study based on their areas of expertise; frequently, other Committee members offer comments as well. The comments include an evaluation of the work performed and proposed, and may include criticisms, suggestions or recommendations for future work. If there are sufficient concerns about progress or plans, the issues may also be discussed among the Committee by conference call or webinar at the next Research Committee meeting. The Committee may also recommend a site visit to evaluate the study in depth. Based on the outcome of deliberations of the Committee, the Staff Scientist writes a letter providing feedback to the PI and may ask for a response or revised plans, if requested by the Committee. The yearly renewal of the contract thus provides an opportunity for assessment of the study and ensures that issues that have arisen are known and addressed.

### Human Subjects

No research is undertaken by HEI funded investigators without prior written approval from the EPA. HEI assures that the investigator and his/her institution comply fully with federal (Department of Health and Human Services) regulations as well as those of the EPA. These obligations are outlined in HEI’s research contract for the study.

### Research Misconduct

HEI has not received any information regarding research misconduct by any investigator it has funded during the reporting period.

### Current Studies and Reports with Quality Assurance Oversight by an External Auditor

For studies that use human subjects or data-derived from, such studies, HEI obtains the services of an external, professional QA auditor to monitor a study or review the final report. We currently have external QA audit plans for the studies and reports in review listed below. The number of audits depends on the complexity of the study.

Investigator, Institution	Study or Report Title	Status
J Balmes University of California at San Francisco	Multicenter Ozone Study in Elderly Subjects (MOSES)	Under Review

P Bromberg University of North Carolina at Chapel Hill	Multicenter Ozone Study in Elderly Subjects (MOSES)	Under Review
M Frampton University of Rochester	Multicenter Ozone Study in Elderly Subjects (MOSES)	Under Review
T Russell Georgia Institute of Technology	Impacts of emission changes on air quality and acute health effects in the southeast, 1993-2012	Under Review
M Brauer University of British Columbia	Identifying the shape of the association between long-term exposure to low levels of ambient air pollution and the risk of mortality	
B Brunekreef University of Utrecht	Mortality and morbidity effects of long-term exposure to low-level PM <sub>2.5</sub> , Black Carbon, NO <sub>2</sub> and O <sub>3</sub>	
F Dominici Harvard University	Assessing Adverse Health Effects of Long-Term Exposure to Low Levels of Ambient Pollution	Ongoing Study
YY Meng UCLA	Improvements in air quality and health outcomes among California Medicaid enrollees due to goods movement actions – Part 2	Ongoing Study
W Kraus Duke University	Air quality by genomics interactions in a cardiovascular disease cohort	Ongoing Study

## ***Conclusion***

Taken together, these activities will maintain HEI as a domestically and globally relevant provider of independent science regularly called upon to communicate on and credibly inform public health and air quality questions in key international forums.



Principal Investigator Institution RFA	Title	Summary	Status (projected study completion)
<b>ACCOUNTABILITY (HEALTH OUTCOMES)</b>			
Y-Y Meng University of California, Los Angeles RFA 11-1 follow-on	Improvements in air quality and health outcomes among California Medicaid enrollees due to goods movement actions – Phase 2	The investigators are evaluating the effects on air quality and health associated with the CARB's Emission Reduction Plan for Ports and Goods Movement. They are examining the changes in criteria and hazardous air pollutants and characterize health outcomes (costs, ER visits and hospitalization for asthma) among Medicaid beneficiaries.	Ongoing (Late 2018)
<b>AIR POLLUTION CONSTITUENTS AND MIXTURES</b>			
<b>Exposure Assessment</b>			
S Batterman University of Michigan RFA 13-1	Enhancing models and measurements of traffic-related air pollutants for health studies using Bayesian melding	This study aims to improve estimates of concentrations of traffic-related air pollutants using source-oriented emission and dispersion models and Bayesian Melding, a novel data fusion technique that combines measured and modeled concentrations of traffic pollutants.	Ongoing (Early 2017)
C Frey North Carolina State University RFA 13-1	Characterizing the determinants of vehicle traffic emissions exposure: Measurements and modeling of land-use, traffic, emissions, transformation and transport	This study is exploring how traffic activity metrics, land-use parameters, and transport of pollutants influence the near-road concentrations measured through extensive sampling campaigns.	Ongoing (Mid 2017)
P Koutrakis Harvard University RFA 14-1	Chemical and physical characterization of non-tailpipe and tailpipe emissions at 100 locations near major roads in the greater Boston Area	The investigators are characterizing contributions to ambient particles released directly (tailpipe and non-tailpipe emissions) and indirectly (resuspended road dust). They will identify variables that may influence the emissions, using a mobile sampling platform to collect particle samples in the Greater Boston area.	Ongoing (2018)
X Wang Desert Research Institute RFA 14-1	Real-world vehicle emission characterization for the Shing Mun Tunnel in Hong Kong and Ft. McHenry Tunnel in the US	This study is characterizing vehicle emission in two tunnels with different proportions of diesel and gasoline vehicles, measuring fleet average emission factors for a number of pollutants and comparing the results to previous tunnel studies.	Ongoing (Mid 2017)
<b>Low Levels of Air Pollution</b>			
M Brauer University of British Columbia RFA 14-3	Identifying the shape of the association between long-term exposure to low levels of ambient air pollution and the risk of mortality: An extension of the Canadian Census Health and Environment Cohort using innovative data linkage and exposure methodology	This study will investigate mortality effects of low levels of air pollution in Canada using Canadian Census data from about 6 million people. The shape of the exposure-response function will be characterized using newly developed flexible non-linear exposure-response functions.	Ongoing (2020)
B Brunekreef Utrecht University, Netherlands RFA 14-3	Mortality and morbidity effects of long-term exposure to low-level PM <sub>2.5</sub> , Black Carbon, NO <sub>2</sub> and O <sub>3</sub> : an analysis of European cohorts	This study will investigate health effects of low levels of air pollution in Europe using pooled data from 10 ESCAPE cohorts with individual covariate information, and 6 large administrative cohorts with less detailed information; resulting in a study population of about 25 million people.	Ongoing (2019)

F Dominici Harvard University RFA 14-3	Assessing adverse health effects of long-term exposure to low levels of ambient pollution	This study will examine health effects of low levels of air pollution in the US using data from about ~56 million people enrolled in Medicare and Medicaid. In addition, they will develop new causal modeling methods to characterize the shape of the exposure-response function.	Ongoing (2020)
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#### Mechanisms of Health Effects

L Contreras University of Texas–Austin RFA 14-2	Understanding the impact of air quality on the chemistry of ribonucleic acids that affect human health	This New Investigator Award study is evaluating changes in different types of RNA molecules inside cells after exposure to air pollutants.	Ongoing (2018)
S Ng Georgia Institute of Technology RFA 13-2	Composition and oxidative properties of particulate matter mixtures: effects of particle phase state, acidity, and transition metals.	This New Investigator Award study is evaluating the composition and oxidative properties of both laboratory-generated and field-sampled particulate matter mixtures.	Ongoing (Mid 2017)
JD Surratt University of North Carolina RFA 11-2	Understanding the health effects of isoprene-derived particulate matter enhanced by anthropogenic pollutants	This New Investigator Award study investigates the toxicity of fine particulate matter formed from the photochemical oxidation of isoprene, in indoor and outdoor smog-chamber facilities. Experiments will feature synthesized isoprene oxidation products, mixtures of isoprene, diesel PM and urban VOCs, and also urban (“high” NOx) and downwind-urban (“low” NOx) conditions with an acidic seed.	Ongoing (Mid 2017)

#### Multiple Air Pollutant Epidemiology

J Clougherty University of Pittsburgh RFFA 15-2	Susceptibility to multiple air pollutants in cardiovascular disease	This study will quantify relationships between chronic and acute exposures to multiple pollutants in New York City, and test whether associations with cardiovascular disease outcomes vary by community socioeconomic position or stressor exposures.	Under negotiation
M Guxens ISGlobal, Barcelona, Spain RFA 15-1	Air pollution, autism spectrum disorders, and brain imaging amongst children in Europe—the APACHE project	This New Investigator Award study will focus on air pollution and autism in two cohorts in Spain and the Netherlands.	Ongoing (2020)
WKraus Duke University RFFA 10-3	Air quality by genomics interactions in a cardiovascular disease cohort	This study will be examining the effect of exposure to air pollution on biomarkers of cardiovascular metabolic risk and blood-borne whole genome gene expression profiles in a cohort with clinically evident heart disease.	Ongoing (Mid 2017)

#### OZONE

J Balmes UCSF; P Bromberg UNC–Chapel Hill; M Frampton University of Rochester RFA 10-1	Multicenter Ozone Study in older Subjects (MOSES), Part 2	This study focuses on the effects of ozone in human volunteers 55 to 70 years of age who were exposed in chambers to near ambient levels of ozone with intermittent exercise. Effects on the cardiovascular system, along with changes in pulmonary function, inflammation, and oxidative stress, were studied. Part 2 of the study will explore additional analyses.	Ongoing (Late 2017)
K Gowdy East Carolina University RFA 14-4	Scavenger receptor B1 regulates oxidized lipid driven pulmonary and vascular inflammation after ozone exposure	This New Investigator Award study is evaluating whether injury after exposure to ozone is mediated through changes in the lung and blood of levels of oxidized phospholipids. This will be tested in normal mice and in mice genetically lacking the Scavenger Receptor B1 that binds oxidized phospholipids.	Ongoing (2018)

#### List of Requests for Applications:

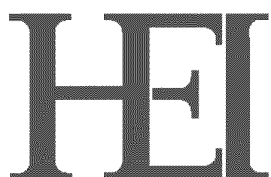
RFA 10-1: Cardiovascular Effects of Exposure to Low Levels of Ozone in the Presence or Absence of Other Ambient Pollutants

RFA 10-2: Walter A. Rosenblith New Investigator Award

RFFA 10-3: Health Effects of Air Pollution

RFA 11-1: Health Outcomes Research – Assessing the Health Outcomes of Air Quality Actions

RFA 11-2: Walter A. Rosenblith New Investigator Award  
RFA 13-1: Improving Assessment of Near-Road Exposure to Traffic Related Pollution  
RFA 13-2: Walter A. Rosenblith New Investigator Award  
RFFA 14-1: Enhancing Near-Road Exposure Assessment Through Characterization of Non-tailpipe and Tailpipe Emissions Near Urban Roads and in Tunnels  
RFA 14-2: Walter A. Rosenblith New Investigator Award  
RFA 14-3: Assessing Health Effects of Long-term Exposure to Low Levels of Ambient Air Pollution  
RFA 14-4: Walter A. Rosenblith New Investigator Award  
RFA 15-1: Walter A. Rosenblith New Investigator Award  
RFFA 15-2: Health Effects of Air Pollution



## Appendix B

### FORTHCOMING RESEARCH REPORTS

March 2017

Principal Investigator Institution RFA	Title	Summary	Status
<b>ACCOUNTABILITY</b>			
A Russell Georgia Institute of Technology  RFA 11-1	Impact of Emissions Changes on Air Quality and Acute Health Effects in the Southeast, 1993– 2013	This study assessed the effect of major stationary source and mobile source control programs on emissions and air quality in the Southeastern United States, using detailed emissions and air pollution measurements and modeling combined with time-series analyses of cardiovascular and respiratory emergency department visits and hospital admissions.	Early review
<b>GLOBAL HEALTH</b>			
GBD MAPS Working Group	Burden of Disease Attributable to Major Sources of Air Pollution in India  (Web-only publication)	This Special Report provides a comprehensive assessment of the current and predicted burdens of disease attributable to major sources of particulate matter air pollution (PM <sub>2.5</sub> ) in India.	Early review
<b>OZONE</b>			
J Balme, University of California–San Francisco / P Bromberg, University of North Carolina–Chapel Hill / M Frampton, University of Rochester  RFA 10-1  P Stark New England Research Institute  RFQ 2010	Multicenter Ozone Study in older Subjects (MOSES). Part 1. Effects of Exposure to Low Concentrations of Ozone on Respiratory and Cardiovascular Outcomes  Data analysis for the multicenter ozone study	This study focused on the effects of ozone in human volunteers, aged 55 to 70 years, who were exposed in chambers to near ambient levels of ozone with intermittent exercise. Effects on the cardiovascular system, along with changes in pulmonary function, inflammation, and oxidative stress were studied.  This statistical data analysis center developed an analysis plan, and managed and analyzed data collected in the multicenter controlled ozone exposure study in human volunteers.	In press
<b>PARTICULATE MATTER AND AIR POLLUTION</b>			
JC Chen University of Southern California  RFA 07-1	Particulate Air Pollutants, Brain Structure, and Neurocognitive Disorders in Older Women	This study evaluated whether exposure to ambient PM increases the risk for dementia and mild cognitive impairment, using data from the Women's Health Initiative Memory Study (WHIMS) cohort.	In press
J M Delgado-Saborit University of Birmingham, UK  RFA 10-2	Use of Real-Time Sensors to Assess Misclassification and to Identify Main Sources Contributing to Peak and Chronic Exposures	This study used portable, real-time sensors to assess misclassification associated with surrogate measures of exposure in a panel of participants who live close to, or far from, traffic and have electric or gas cookstoves. The focus was on ultrafine particles, PM <sub>2.5</sub> , black carbon, and NO <sub>2</sub> .	Early review

**KEY:**

In Press (publication within two months)  
Late Review (publication within four months)  
Mid-Review (Revised Investigator's Report received)  
Early Review (Draft Investigator's Report received)

TRAFFIC EXPOSURE			
B Barratt King's College London, UK  RFA 13-1	The Hong Kong D3D Study: A Dynamic Three-Dimensional Exposure Model for Hong Kong	This study performed extensive measurements at different building heights (both outdoors and indoors) in canyon streets with high buildings to develop a three-dimensional land-use regression model for Hong Kong residents.	Early review
J Samat Emory University  RFA 13-1	Developing Multipollutant Exposure Indicators of Traffic Pollution: The Dorm Room Inhalation to Vehicle Emissions (DRIVE) Study	This study evaluated novel multipollutant traffic surrogates by collecting measurements in and around two student dormitories in Atlanta, and explored the use of metabolomics to identify possible exposure-related metabolites.	Mid-review
E Seto University of Washington–Seattle  RFA 13-1	Evaluation of Alternative Sensor-Based Exposure Assessment Methods	This study compared exposure estimates from wearable personal exposure monitors with estimates derived from other exposure assessment methods.	Early review

#### List of Requests for Applications

**RFA 07-1:** Walter A. Rosenblith New Investigator Award

**RFA 10-1:** Cardiovascular Effects of Exposure to Low Levels of Ozone in the Presence or Absence of Other Ambient Pollutants

**RFA 10-2:** Walter A. Rosenblith New Investigator Award

**RFA 11-1:** Health Outcomes Research—Assessing the Health Outcomes of Air Quality Actions

**RFA 13-1:** Improving Assessment of Near-Road Exposure to Traffic-Related Pollution

**RFQ 2010:** Request for Qualifications for a Data Analysis Center

#### KEY:

In Press (publication within two months)

Late Review (publication within four months)

Mid-Review (Revised Investigator's Report received)

Early Review (Draft Investigator's Report received)



**APPENDIX C**  
**HEI PUBLICATIONS**  
**APRIL 2016 THROUGH MARCH 2017**

**HEI Research Reports**

Research Report 183. Health Effects Institute. *Development of Statistical Methods for Multipollutant Research.*

Part 3. John Molitor, Eric Coker, Michael Jerrett, Beate Ritz, and Arthur Li. *Modeling of Multipollutant Profiles and Spatially Varying Health Effects with Applications to Indicators of Adverse Birth Outcomes.* (April 2016)

Research Report 186. David Q. Rich, Annette Peters, Alexandra Schneider, Wojciech Zareba, Susanne Breitner, David Oakes, Jelani Wiltshire, Cathleen Kane, Mark W. Frampton, Regina Hampel, Philip K. Hopke, Josef Cyrus, and Mark J. Utell. *Ambient and Controlled Particle Exposures as Triggers for Acute ECG Changes.* (May 2016)

Research Report 187. Corwin Matthew Zigler, Chanmin Kim, Christine Choirat, John Barrett Hansen, Yun Wang, Lauren Hund, Jonathan Samet, Gary King, and Francesca Dominici. *Causal Inference Methods for Estimating Long-Term Health Effects of Air Quality Regulations.* (May 2016)

Research Report 188. Jun Wu, Olivier Laurent, Lianfa Li, Jianlin Hu, and Michael Kleeman. *Adverse Reproductive Health Outcomes and Exposure to Gaseous and Particulate-Matter Air Pollution in Pregnant Women.* (July 2016)

Research Report 189. Zhengmin Qian, Bin Zhang, Shengwen Liang, Jing Wang, Shaoping Yang, Ke Hu, Edwin Trevathan, Rong Yang, Qijie Li, Louise H. Flick, Ronghua Hu, Zhen Huang, Yimin Zhang, Shixiang Hu, Jing Wang, Longjiao Shen, Yuan Lu, Hui Peng, Yuzhen Yu, Li Yang, Wei Chen, Wenjin Liu, and Wei Zhang. *Ambient Air Pollution and Adverse Pregnancy Outcomes in Wuhan, China.* (September 2016)

Research Report 190. Frank Gilliland, Edward Avol, Rob McConnell, Kiros Berhane, W. James Gauderman, Fred W. Lurmann, Robert Urman, Roger Chang, Edward B. Rappaport, and Stephen Howland. *The Effects of Policy-Driven Air Quality Improvements on Children's Respiratory Health.* (January 2017)

Research Report 191. Allison D. Fryer, David B. Jacoby, and Sarah A. Wicher. *Protective Role of Eosinophils and Tumor Necrosis Factor- $\alpha$  after Ozone Inhalation.* (March 2017)

**Other Publications**

Special Report 20. GBD MAPS Working Group. *Burden of Disease Attributable to Coal-Burning and Other Major Sources of Air Pollution in China*. (August 2016)

Special Report. Health Effects Institute. *State of Global Air 2017*. (January 2017)

**Unpublished Report (available from HEI on request)**

Richard E. Peltier, Whitney Huynh, Pallavi Pant, and Massimiliano Mascelloni. *New methods to detect aerosol chemical composition–induced reactive oxygen species in a biological model*. (Listed as available June 2016)

**To:** Bailey, Chad[bailey.chad@epa.gov]; Bloomer, Bryan[Bloomer.Bryan@epa.gov]; Burke, Thomas[Burke.Thomas@epa.gov]; Charmley, William[charmley.william@epa.gov]; Costa, Dan[Costa.Dan@epa.gov]; 'craig.beth@epa.gov'[craig.beth@epa.gov]; Dunham, Sarah[Dunham.Sarah@epa.gov]; DeMocker, Jim[DeMocker.Jim@epa.gov]; Fegley, Robert[Fegley.Robert@epa.gov]; Flynn, Mike[Flynn.Mike@epa.gov]; 'grundler.christoper@epa.gov'[grundler.christoper@epa.gov]; Haeuber, Richard[Haeuber.Richard@epa.gov]; 'higgins.becky@epa.gov'[higgins.becky@epa.gov]; Hoyer, Marion[hoyer.marion@epa.gov]; Cook, Leila[cook.leila@epa.gov]; Hubbell, Bryan[Hubbell.Bryan@epa.gov]; Hunt, Sherri[Hunt.Sherri@epa.gov]; Johnson, Jim[Johnson.Jim@epa.gov]; Jones, Jim[Jones.Jim@epa.gov]; Kadeli, Lek[Kadeli.Lek@epa.gov]; Kasman, Mark[Kasman.Mark@epa.gov]; Kolb, Laura[Kolb.Laura@epa.gov]; McCabe, Janet[McCabe.Janet@epa.gov]; Owen, Russell[Owen.Russell@epa.gov]; Page, Steve[Page.Steve@epa.gov]; Preuss, Peter[Preuss.Peter@epa.gov]; Harvey, Reid[Harvey.Reid@epa.gov]; Robarge, Gail[Robarge.Gail@epa.gov]; Sargeant, Kathryn[sargeant.kathryn@epa.gov]; Sasser, Erika[Sasser.Erika@epa.gov]; Simon, Karl[Simon.Karl@epa.gov]; Shaw, Betsy[Shaw.Betsy@epa.gov]; Teichman, Kevin[Teichman.Kevin@epa.gov]; 'trovato.ramona@epa.gov'[trovato.ramona@epa.gov]; Vandenberg, John[Vandenberg.John@epa.gov]; Winner, Darrell[Winner.Darrell@epa.gov]; Meiburg, Stan[Meiburg.Stan@epa.gov]; 'aayala@arb.ca.gov'[aayala@arb.ca.gov]; bcroes@arb.ca.gov[bcroes@arb.ca.gov]; 'mnichols@arb.ca.gov'[mnichols@arb.ca.gov]; 'michael.claggett@fhwa.dot.gov'[michael.claggett@fhwa.dot.gov]; 'cecilia.ho@dot.gov'[cecilia.ho@dot.gov]; 'april.marchese@fhwa.dot.gov'[april.marchese@fhwa.dot.gov]; 'victoria.martinez@fhwa.dot.gov'[victoria.martinez@fhwa.dot.gov]; 'gurpreet.singh@ee.doe.gov'[gurpreet.singh@ee.doe.gov]; 'carl.maronde@netl.doe.gov'[carl.maronde@netl.doe.gov]  
**Cc:** dgreenbaum@healtheffects.org[dgreenbaum@healtheffects.org]; Robert O'Keefe[ROKeefe@healtheffects.org]; Kelley-Anne Clisham[kaclisham@healtheffects.org]; Annemoon van Erp[avanerp@healtheffects.org]; Maria Costantini[MCostantini@healtheffects.org]  
**From:** Rashid Shaikh  
**Sent:** Mon 6/26/2017 6:48:44 PM  
**Subject:** Call in Details: Advanced Briefing on HEI's Multicenter Ozone Study in oldEr Subjects (MOSES)  
[Statement for HEI Report 192 \(MOSES\).pdf](#)

Dear HEI Sponsors: I write to give you details about the forthcoming briefing about the MOSES report. For your information, I have also attached the Statement that presents a summary of the study, its findings and the HEI Review Panel's evaluation.

The briefing is scheduled for **Wednesday, June 28 at 12:00 noon** (Eastern Time). To join the briefing, please follow these steps:

#### For Video

Go to:

<https://healtheffectsevents.webex.com/healtheffectsevents/onstage/g.php?MTID=e5c6a8b40721f5b807f7a59830>

Event password Ex. 6 - Personal Privacy



Event name and Number: **Ex. 6 - Personal Privacy**

We recommend logging on 10 minutes before start of the webinar to make sure your computer can access the webinar. If you have not used WebEx before, a download will be required.

#### For Audio

Please dial **Ex. 6 - Personal Privacy** passcode: **Ex. 6 - Personal Privacy** (US and Canada).

Contact us if you are dialing in from a different country.

Please note that we will use conference call for audio, and *not* the audio function built in Webex.

We look forward to providing this advance briefing for this important study ahead of the July 4<sup>th</sup> holiday weekend. We plan publish the report on [www.healtheffects.org](http://www.healtheffects.org) just after the holiday on Thursday, July 6.

We look forward to your joining us for this important briefing on Wednesday. And please contact me if you have any questions.

Rashid

**From:** Rashid Shaikh

**Sent:** Wednesday, June 21, 2017 1:41 PM

**To:** 'Bailey, Chad (bailey.chad@epa.gov)'; 'bloomer.bryan@epa.gov'; 'Tom Burke (Burke.thomas@Epa.gov)'; 'charmley.william@epa.gov'; 'costa.dan@epa.gov'; 'craig.beth@epa.gov'; 'dunham.sarah@epa.gov'; 'Jim DeMocker (Democker.jim@Epa.gov)'; 'fegley.robert@epa.gov'; 'flynn.mike@epa.gov'; 'grundler.christoper@epa.gov'; 'haeuber.richard@epa.gov'; 'higgins.becky@epa.gov'; 'hoyer.marion@epa.gov'; 'cook.leila@epa.gov'; 'Hubbell, Bryan (Hubbell.Bryan@epa.gov)'; 'Hunt, Sherri (Hunt.Sherri@epa.gov)'; 'johnson.jim@epa.gov'; 'jones.jim@epa.gov'; 'kadeli.lek@epa.gov'; 'kasman.mark@epa.gov'; 'kolb.laura@epa.gov'; 'mccabe.janet@epa.gov'; 'owen.russell@epamail.epa.gov'; 'page.steve@epa.gov'; 'preuss.peter@epa.gov'; 'harvey.reid@epa.gov'; 'robarge.gail@epamail.epa.gov'; 'sargeant.kathryn@epa.gov'; 'sasser.erika@epa.gov'; 'simon.karl@epa.gov'; 'Shaw, Betsy'; 'teichman.kevin@epa.gov'; 'trovato.ramona@epa.gov'; 'vandenberg.john@epa.gov';

'winner.darrell@epa.gov'; 'Stan Meiburg (Meiburg.stan@Epa.gov)'; 'aayala@arb.ca.gov';  
'bcroes@arb.ca.gov'; 'mnichols@arb.ca.gov'; 'michael.claggett@fhwa.dot.gov'; 'cecilia.ho@dot.gov';  
'april.marchese@fhwa.dot.gov'; 'victoria.martinez@fhwa.dot.gov'; 'gurpreet.singh@ee.doe.gov';  
'carl.maronde@netl.doe.gov'

**Cc:** Dan Greenbaum; Robert O'Keefe; Kelley-Anne Clisham; Annemoon van Erp

**Subject:** Advanced Briefing on HEI's Multicenter Ozone Study in oldEr Subjects (MOSES)

Dear HEI Sponsors:

We are pleased to alert you that, after thorough research by the Multicenter Ozone Study in oldEr Subjects (MOSES) investigators, and valuable review by the MOSES Review Panel, we will be releasing the report of this important study on June 29, 2017. We have scheduled an advanced briefing for you on **Wednesday, June 28 at 12:00 noon** (Eastern Time); we will send you both an advance copy of the report's Statement and the call-in/webinar details next week in advance of the call.

As you know, the harmful effects of ozone exposure on the respiratory system have been well characterized and are the basis for the National Ambient Air Quality Standard for ozone. On the other hand, the adverse effects of ozone on the cardiovascular system have not been well studied, though some epidemiological studies have suggested such a relationship. HEI funded the MOSES project to investigate the effects of short-term exposure to ozone on the cardiovascular (and respiratory) system in older people, a population presumed to be more susceptible to its effects. The study exposed healthy volunteers, average age 60 years, to near ambient levels of ozone (70 [the current 8-hour standard] and 120 ppb), for three hours while they exercised intermittently. The researchers tested a large suite of carefully selected cardiovascular, respiratory and other endpoints and compared the pre- and post-exposure values for these endpoints, with exposure to ozone and to clean air. They also tested whether any observed effects varied by subgroups defined by sex, age, or GSTM1 genotype (for a gene involved in antioxidant defenses).

The preliminary results of this study were presented at the HEI Annual Conference in 2016. Subsequently, the investigators have performed many additional analyses and an HEI-appointed Review Panel has reviewed the study in depth and prepared a comprehensive commentary on the report, highlighting the study's major findings, conclusions and limitations. During the sponsors' briefing, we will summarize the study's findings and highlight the issues discussed in the commentary.

We look forward to sharing the results of this important effort with you next week. Please let us know if you have any questions in the meantime.

And thank you for your continued interest in and support of the work of HEI.

Sincerely,

Rashid

Rashid Shaikh, Ph.D.

Director of Science

Health Effects Institute

75 Federal Street, 14<sup>th</sup> Floor

Boston, MA 02110

(617) 488-2301

[rshaikh@healtheffects.org](mailto:rshaikh@healtheffects.org)

[www.healtheffects.org](http://www.healtheffects.org)

**To:** Pruitt, Scott[Pruitt.Scott@epa.gov]; Flynn, Mike[Flynn.Mike@epa.gov]; Jackson, Ryan[jackson.ryan@epa.gov]; Reeder, John[Reeder.John@epa.gov]  
**From:** Shrayas Jatkar  
**Sent:** Thur 6/22/2017 11:31:35 PM  
**Subject:** letter of support for stronger locomotive emission standards  
[CCA - Support for locomotive petition to USEPA - 6.22.2017.pdf](#)

Good afternoon,

Coalition for Clean Air writes to express strong support for the petition to adopt more health-protective emission standards for locomotives and locomotive engines by 2020, submitted to U.S. EPA in April 2017 by the California Air Resources Board.

Attached please find a copy of a more detailed letter of support. A copy of the letter will also be sent by mail. Thank you for your time and consideration.

*Best,*

Shrayas Jatkar

Policy Associate

916-527-8050 (office) Ex. 6 - Personal Privacy (cell)

Coalition for Clean Air

1107 9th Street, Suite 440 / Sacramento, CA 95814



June 22, 2017

The Honorable Scott Pruitt, Administrator  
U.S. Environmental Protection Agency  
Office of the Administrator, Mail Code: 1101A  
1200 Pennsylvania Avenue, NW  
Washington, D.C. 20460

Dear Administrator Pruitt,

Coalition for Clean Air (CCA) is dedicated to restoring clean, healthy air to California by advocating for effective public policy and practical business solutions. To that end, CCA works to reduce emissions from the transportation sector – the largest source of health-damaging and climate-disrupting air pollution in California. This includes directing transportation policies and incentive funding at the freight sector, in order to break the dependence of trucks, trains, ships, and cargo-handling equipment on costly diesel fuel in terms of air quality and public health.

Therefore, Coalition for Clean Air writes to express strong support for the petition to the U.S. Environmental Protection Agency (U.S. EPA) to adopt more health-protective emission standards for locomotives filed in April 2017 by the California Air Resources Board (ARB). CCA urges U.S. EPA to act swiftly and promulgate new, more stringent “Emission Standards for Locomotives and Locomotive Engines” no later than 2020, for newly built locomotives beginning in manufacture year 2025 and upon remanufacture of Tier 2-4 engines starting in 2023. Since their establishment in 1998, federal locomotive standards have resulted in measurable progress with respect to cutting fuel consumption and reducing harmful emissions of particulate matter and nitrogen oxides.

Further action by U.S. EPA is critically needed, however, in order to ensure that significant air quality and public health improvements occur in the hardest-hit neighborhoods and communities located near railyards. This action can also play an integral role in assisting states across the country in attaining National Ambient Air Quality Standards set by the U.S. EPA. Revising and strengthening federal locomotive emission standards, as was done under the Bush Administration in 2008, represents the most efficient and cost-effective policy option for U.S.

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660 S. Figueroa Street, Suite 1140  
Los Angeles, California 90017  
(213) 223-6860

1107 Ninth Street, Suite 440  
Sacramento, California 95814  
(916) 527-8048

[www.ccair.org](http://www.ccair.org)



EPA to mitigate the impacts of rail transportation and continue achieving important economic, environmental, and health improvements.

### **Only federal action by U.S. EPA can impact locomotive emissions**

States and local agencies across the country are obligated and empowered to pursue measures that reduce criteria and toxic air pollution in order to protect public health and welfare. States must also rely, in part, on federal agency partners to help them attain health-protective national clean air standards. Lowering harmful pollution from rail transportation is a case in point, because U.S. EPA maintains sole legal authority for setting locomotive emission standards under the federal Clean Air Act.

Dangerous emissions of toxic diesel and fine particulate matter (diesel PM and PM<sub>2.5</sub>), smog-forming nitrogen oxides (NO<sub>x</sub>), and heat-trapping greenhouse gases (GHG) from rail operations would not decrease appreciably, even if state or local governments were granted authority over locomotives. This is because inter-state freight railroad operations, using diesel-powered engines, are the single greatest source of locomotive activity and emissions and both are projected to continue rising. Therefore, control measures adopted by only one state or jurisdiction would be an ineffectual response to ever-increasing emissions from locomotives nationwide.

California plays a leading role in the U.S. freight transport industry, with about 4 out of every 10 containers imported to the country arriving through the Ports of Los Angeles and Long Beach for instance. Nearly twenty major freight railyards (including intermodal and classification) operate in the state, and the concentration of these rail facilities in close proximity to neighborhoods creates toxic hotspots where residents face elevated health risks of cancer and chronic respiratory and cardiac diseases. Californians are not unique in experiencing this pattern of environmental inequity that disproportionately impacts low-income communities of color; toxic hotspots are found around railyards located close to neighborhoods in Houston, Dallas/Fort Worth, Atlanta, Chicago, and other cities with major freight activity according to U.S. EPA's 2011 National Air Toxics Assessment. Likewise, California is not alone in struggling to lower NO<sub>x</sub> emissions to meet federal ozone standards. People living in Texas, Pennsylvania, Illinois, Maryland, New Jersey, and New York would also benefit greatly from stricter locomotive emission standards due to the high levels of rail activity and associated NO<sub>x</sub> emissions.

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660 S. Figueroa Street, Suite 1140  
Los Angeles, California 90017  
(213) 223-6860

1107 Ninth Street, Suite 440  
Sacramento, California 95814  
(916) 527-8048

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## **Immediate action by U.S. EPA is required to meet clean air standards**

U.S. EPA must set higher, more health-protective locomotive emission standards in order to keep pace with the considerable advances in clean rail transportation technologies since the last update by the Bush Administration in 2008. These advancements include technologies for newly-manufactured locomotive engines and for the re-manufacture of older ones, and apply to line-haul as well as switcher locomotives. Swift action is necessary to ensure that sufficient time is available for each phase of the rulemaking and technology development processes, and so that implementation occurs in a timeframe that supports attainment of federal clean air standards nationwide.

Usage of a locomotive engine descends over time from providing interstate, line-haul transport at first to serving intermodal and classification railyards later. This approach to locomotive utilization means that the oldest and most polluting engines operate in the most populated and busiest industrial areas of rail activity. Therefore, more stringent emission standards should take effect first for the re-manufacture of older locomotive engines, a practice that occurs about every seven to ten years over the engine's useful life. These new standards should take effect in 2023 so that manufacturers have approximately five years to upgrade their processes for re-manufacturing locomotive engines currently certified at Tier 2-4 (e.g., applying better engine designs). For re-manufacture standards on current Tier 4 engines, it is also important to incorporate after-treatment technologies to achieve the significant reductions outlined in ARB's petition, including compact selective catalytic reduction (SCR) to nearly eliminate nitrogen oxide emissions and diesel oxidation catalyst (DOC) filters to reduce carbon monoxide, hydrocarbons, and diesel particulate matter emissions.

U.S. EPA should also establish a new Tier 5 emission standard for newly-built locomotive engines starting in manufacturing year 2025. This schedule will provide locomotive manufacturers about seven years to carry out the necessary steps to improve diesel-electric hybrid engines and make progress toward zero-emission rail equipment powered by on-board batteries and/or hydrogen fuel cells. This was roughly the same amount of time that U.S. rail manufacturers (e.g., General Electric and Electro-Motive Diesel) had to make commercially-available Tier 2 engines that represented a major increase from Tier 1 engine emission standards. A Tier 5 standard, as proposed by ARB, will ensure reductions in greenhouse gas emissions from locomotive engines for the first time, while also reaching near-zero-emission levels for health-damaging criteria and toxic air pollutants. Battery and fuel cell technologies that enable zero-emission rail operations can also make a noticeable difference in reducing

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660 S. Figueroa Street, Suite 1140  
Los Angeles, California 90017  
(213) 223-6860

1107 Ninth Street, Suite 440  
Sacramento, California 95814  
(916) 527-8048

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noise pollution, another major impact on the quality of life in communities located near railyards.

### **Strengthening locomotive emission standards delivers multiple economic benefits**

Strengthening locomotive emission standards presents an opportunity to spur job creation and business development in the U.S. rail transportation industry, much like the growth in automotive sector employment since 2009 following adoption of higher vehicle fuel economy standards nationwide. Furthermore, setting higher standards that help to accelerate the development and production of zero-emission, battery and fuel-cell electric locomotives would position U.S. rail manufacturers as global leaders capable of meeting the market demand for solutions to poor air quality and climate disruption. The total cost of ownership of advanced technology locomotives will likely be lower than conventional-fueled ones due to cost savings on fuel and maintenance. In short, adoption of more stringent locomotive emission standards will deliver a variety of economic benefits to the U.S. rail industry from engine manufacturers and parts suppliers to end-users.

Encouraging development of zero-emission, advanced technology for locomotive engines via updated emissions standards will have positive spillover effects on other segments of the highly-polluting, heavy-duty transportation sector. Buses are a prime example: technological breakthroughs that have helped bring zero-emission transit buses to market are now being transferred into the heavy-duty truck segment as reported by major global manufacturers such as Volvo/Nova Bus and BYD Auto. Aircraft and ocean-going vessels may be the beneficiaries of technology transfer from advancements in zero- and near-zero-emission locomotive capabilities. Lower production costs is another likely spillover effect, in which higher-volume production of batteries and fuel cells for locomotives will help reduce the unit cost of these critical components needed to power zero-emission heavy-duty vehicles and equipment.

In addition to the economic benefits described above, strengthening locomotive emission standards will continue delivering important air quality and public health improvements as a result of lower diesel fuel requirements. Reduced fuel consumption will also enhance the country's energy security and independence from imported petroleum, a long-standing and bipartisan goal of every administration since the oil embargoes in the 1970's.

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660 S. Figueroa Street, Suite 1140  
Los Angeles, California 90017  
(213) 223-6860

1107 Ninth Street, Suite 440  
Sacramento, California 95814  
(916) 527-8048

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## Conclusion

Texans, Georgians, Pennsylvanians, Californians, and people in other states with high rail activity are relying on U.S. EPA to protect their health and well-being from harmful air pollution. Setting higher, more stringent locomotive emission standards is crucial toward that end, and only the U.S. EPA may take such action. Furthermore, U.S. EPA must act swiftly so that U.S. rail manufacturers can design, test, demonstrate, and make cleaner locomotive engines available commercially within a timeframe that enables U.S. states to attain near-term federal clean air standards.

The multiple benefits of tighter locomotive emission standards – cleaner air to breathe, healthier communities and rail workers, and greater economic activity – will reach far beyond California and states in the U.S. South and Midwest where rail activity is highest. Therefore, Coalition for Clean Air strongly urges U.S. EPA to begin crafting more health-protective Emission Standards for Locomotives and Locomotive Engines, and to finalize these no later than 2020. It is critical for improving air quality and protecting public health that the revised emission standards apply to the re-manufacture of older, higher polluting Tier 2-4 locomotive engines effective as of 2023, and newly built engines starting with manufacture year 2025. U.S. EPA should work with the California Air Resources Board in crafting these new standards, beginning with a response this summer to ARB's petition filed in April 2017.

Swift and decisive action on this petition will deliver win-win opportunities for improved air quality and public health, particularly in the hardest-hit neighborhoods and communities, and increased global competitiveness for U.S. rail manufacturers. Thank you in advance for your consideration of this petition, and we look forward to a favorable and timely response from U.S. EPA. Please feel free to contact Coalition for Clean Air to discuss this matter further; you can reach us at (213) 223-6860.

Sincerely,

A handwritten signature in black ink that reads "Joseph K. Lyou".

Joseph K. Lyou, PhD  
President and CEO  
Coalition for Clean Air

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660 S. Figueroa Street, Suite 1140  
Los Angeles, California 90017  
(213) 223-6860

1107 Ninth Street, Suite 440  
Sacramento, California 95814  
(916) 527-8048

[www.ccair.org](http://www.ccair.org)



cc: Elizabeth Adams  
Acting Director, Air Division – Region 9  
U.S. Environmental Protection Agency  
75 Hawthorne Street / San Francisco, CA 94105

Chris Grundler  
Director, Office of Transportation and Air Quality (6401A)  
U.S. Environmental Protection Agency  
1200 Pennsylvania Avenue, NW / Washington, DC 20460

Matt Rodriguez  
Secretary, California Environmental Protection Agency  
1001 I Street / Sacramento, CA 95812

Honorable Board Members  
California Air Resources Board

Richard W. Corey  
Executive Officer, California Air Resources Board  
1001 I Street / Sacramento, CA 95812

W. James Waggoner  
President, California Air Pollution Control Officers' Association  
1107 9<sup>th</sup> Street, Suite 1005 / Sacramento, CA 95814

Brian P. Kelly  
Secretary, California State Transportation Agency  
915 Capitol Mall, Suite 350B / Sacramento, CA 95814

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660 S. Figueroa Street, Suite 1140  
Los Angeles, California 90017  
(213) 223-6860

1107 Ninth Street, Suite 440  
Sacramento, California 95814  
(916) 527-8048

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**To:** Bailey, Chad[bailey.chad@epa.gov]; Bloomer, Bryan[Bloomer.Bryan@epa.gov]; Burke, Thomas[Burke.Thomas@epa.gov]; Charmley, William[charmley.william@epa.gov]; Costa, Dan[Costa.Dan@epa.gov]; 'craig.beth@epa.gov'[craig.beth@epa.gov]; Dunham, Sarah[Dunham.Sarah@epa.gov]; DeMocker, Jim[DeMocker.Jim@epa.gov]; Fegley, Robert[Fegley.Robert@epa.gov]; Flynn, Mike[Flynn.Mike@epa.gov]; 'grundler.christoper@epa.gov'[grundler.christoper@epa.gov]; Haeuber, Richard[Haeuber.Richard@epa.gov]; 'higgins.becky@epa.gov'[higgins.becky@epa.gov]; Hoyer, Marion[hoyer.marion@epa.gov]; Cook, Leila[cook.leila@epa.gov]; Hubbell, Bryan[Hubbell.Bryan@epa.gov]; Hunt, Sherri[Hunt.Sherri@epa.gov]; Johnson, Jim[Johnson.Jim@epa.gov]; Jones, Jim[Jones.Jim@epa.gov]; Kadeli, Lek[Kadeli.Lek@epa.gov]; Kasman, Mark[Kasman.Mark@epa.gov]; Kolb, Laura[Kolb.Laura@epa.gov]; McCabe, Janet[McCabe.Janet@epa.gov]; Owen, Russell[Owen.Russell@epa.gov]; Page, Steve[Page.Steve@epa.gov]; Preuss, Peter[Preuss.Peter@epa.gov]; Harvey, Reid[Harvey.Reid@epa.gov]; Robarge, Gail[Robarge.Gail@epa.gov]; Sargeant, Kathryn[sargeant.kathryn@epa.gov]; Sasser, Erika[Sasser.Erika@epa.gov]; Simon, Karl[Simon.Karl@epa.gov]; Shaw, Betsy[Shaw.Betsy@epa.gov]; Teichman, Kevin[Teichman.Kevin@epa.gov]; Trovato, Ramona[Trovato.Ramona@epa.gov]; Vandenberg, John[Vandenberg.John@epa.gov]; Winner, Darrell[Winner.Darrell@epa.gov]; Meiburg, Stan[Meiburg.Stan@epa.gov]; 'aayala@arb.ca.gov'[aayala@arb.ca.gov]; bcroes@arb.ca.gov[bcroes@arb.ca.gov]; 'mnichols@arb.ca.gov'[mnichols@arb.ca.gov]; 'michael.claggett@fhwa.dot.gov'[michael.claggett@fhwa.dot.gov]; 'cecilia.ho@dot.gov'[cecilia.ho@dot.gov]; 'april.marchese@fhwa.dot.gov'[april.marchese@fhwa.dot.gov]; 'victoria.martinez@fhwa.dot.gov'[victoria.martinez@fhwa.dot.gov]; 'gurpreet.singh@ee.doe.gov'[gurpreet.singh@ee.doe.gov]; 'carl.maronde@netl.doe.gov'[carl.maronde@netl.doe.gov]  
**Cc:** dgreenbaum@healtheffects.org[dgreenbaum@healtheffects.org]; Robert O'Keefe[ROKeefe@healtheffects.org]; Kelley-Anne Clisham[kaclisham@healtheffects.org]; Annemoon van Erp[avanerp@healtheffects.org]  
**From:** Rashid Shaikh  
**Sent:** Wed 6/21/2017 5:41:07 PM  
**Subject:** Advanced Briefing on HEI's Multicenter Ozone Study in oldEr Subjects (MOSES)

Dear HEI Sponsors:

We are pleased to alert you that, after thorough research by the Multicenter Ozone Study in oldEr Subjects (MOSES) investigators, and valuable review by the MOSES Review Panel, we will be releasing the report of this important study on June 29, 2017. We have scheduled an advanced briefing for you on **Wednesday, June 28 at 12:00 noon** (Eastern Time); we will send you both an advance copy of the report's Statement and the call-in/webinar details next week in advance of the call.

As you know, the harmful effects of ozone exposure on the respiratory system have been well characterized and are the basis for the National Ambient Air Quality Standard for ozone. On the other hand, the adverse effects of ozone on the cardiovascular system have not been well studied, though some epidemiological studies have suggested such a relationship. HEI funded the MOSES project to investigate the effects of short-term exposure to ozone on the cardiovascular (and respiratory) system in older people, a population presumed to be more susceptible to its

effects. The study exposed healthy volunteers, average age 60 years, to near ambient levels of ozone (70 [the current 8-hour standard] and 120 ppb), for three hours while they exercised intermittently. The researchers tested a large suite of carefully selected cardiovascular, respiratory and other endpoints and compared the pre- and post-exposure values for these endpoints, with exposure to ozone and to clean air. They also tested whether any observed effects varied by subgroups defined by sex, age, or GSTM1 genotype (for a gene involved in antioxidant defenses).

The preliminary results of this study were presented at the HEI Annual Conference in 2016. Subsequently, the investigators have performed many additional analyses and an HEI-appointed Review Panel has reviewed the study in depth and prepared a comprehensive commentary on the report, highlighting the study's major findings, conclusions and limitations. During the sponsors' briefing, we will summarize the study's findings and highlight the issues discussed in the commentary.

We look forward to sharing the results of this important effort with you next week. Please let us know if you have any questions in the meantime.

And thank you for your continued interest in and support of the work of HEI.

Sincerely,

Rashid

Rashid Shaikh, Ph.D.

Director of Science

Health Effects Institute

75 Federal Street, 14<sup>th</sup> Floor

Boston, MA 02110

(617) 488-2301

[rshaikh@healtheffects.org](mailto:rshaikh@healtheffects.org)

[www.healtheffects.org](http://www.healtheffects.org)

**To:** Bailey, Chad[bailey.chad@epa.gov]; Bloomer, Bryan[Bloomer.Bryan@epa.gov]; Burke, Thomas[Burke.Thomas@epa.gov]; Charmley, William[charmley.william@epa.gov]; Costa, Dan[Costa.Dan@epa.gov]; 'craig.beth@epa.gov'[craig.beth@epa.gov]; Dunham, Sarah[Dunham.Sarah@epa.gov]; DeMocker, Jim[DeMocker.Jim@epa.gov]; Fegley, Robert[Fegley.Robert@epa.gov]; Flynn, Mike[Flynn.Mike@epa.gov]; 'grundler.christoper@epa.gov'[grundler.christoper@epa.gov]; Haeuber, Richard[Haeuber.Richard@epa.gov]; 'higgins.becky@epa.gov'[higgins.becky@epa.gov]; Hoyer, Marion[hoyer.marion@epa.gov]; Cook, Leila[cook.leila@epa.gov]; Hubbell, Bryan[Hubbell.Bryan@epa.gov]; Hunt, Sherri[Hunt.Sherri@epa.gov]; Johnson, Jim[Johnson.Jim@epa.gov]; Jones, Jim[Jones.Jim@epa.gov]; Kadeli, Lek[Kadeli.Lek@epa.gov]; Kasman, Mark[Kasman.Mark@epa.gov]; Kolb, Laura[Kolb.Laura@epa.gov]; McCabe, Janet[McCabe.Janet@epa.gov]; Owen, Russell[Owen.Russell@epa.gov]; Page, Steve[Page.Steve@epa.gov]; Preuss, Peter[Preuss.Peter@epa.gov]; Harvey, Reid[Harvey.Reid@epa.gov]; Robarge, Gail[Robarge.Gail@epa.gov]; Sargeant, Kathryn[sargeant.kathryn@epa.gov]; Sasser, Erika[Sasser.Erika@epa.gov]; Simon, Karl[Simon.Karl@epa.gov]; Shaw, Betsy[Shaw.Betsy@epa.gov]; Teichman, Kevin[Teichman.Kevin@epa.gov]; Trovato, Ramona[Trovato.Ramona@epa.gov]; Vandenberg, John[Vandenberg.John@epa.gov]; Winner, Darrell[Winner.Darrell@epa.gov]; 'Stan Meiburg (Meiburg.stan@Epa.gov)'[Meiburg.stan@Epa.gov]; 'aayala@arb.ca.gov'[aayala@arb.ca.gov]; bcroes@arb.ca.gov[bcroes@arb.ca.gov]; 'mnichols@arb.ca.gov'[mnichols@arb.ca.gov]; 'michael.claggett@fhwa.dot.gov'[michael.claggett@fhwa.dot.gov]; 'cecilia.ho@dot.gov'[cecilia.ho@dot.gov]; 'april.marchese@fhwa.dot.gov'[april.marchese@fhwa.dot.gov]; 'victoria.martinez@fhwa.dot.gov'[victoria.martinez@fhwa.dot.gov]; 'gurpreet.singh@ee.doe.gov'[gurpreet.singh@ee.doe.gov]; 'carl.maronde@netl.doe.gov'[carl.maronde@netl.doe.gov]

**Cc:** dgreenbaum@healtheffects.org[dgreenbaum@healtheffects.org]; Robert O'Keefe[ROKeefe@healtheffects.org]; Kelley-Anne Clisham[kaclisham@healtheffects.org]

**From:** Rashid Shaikh

**Sent:** Wed 3/8/2017 5:02:10 PM

**Subject:** Follow-up to yesterday's Sponsors meeting

[HEI -- Sponsors Presentation 030617 - Final.pdf](#)  
[EPA Costa -- EPA 2017 sponsors meeting.pdf](#)  
[French 2017 Sponsors meeting.pdf](#)  
[Toyota Collect 2017 HEI Sponsors meeting.pdf](#)  
[Ford Wallington -- 2017 HEI Sponsors meeting.pdf](#)  
[Costantini 2016 Advanced Collaborative Emissions Study Emissions Control....pdf](#)

Dear HEI Sponsors:

Mysteries of Delta's flight scheduling notwithstanding, we were glad that several colleagues from EPA were able to join us by phone yesterday for the annual meeting with the HEI Research Committee; our thanks to all of you. Also, special thanks to Stacey Katz for attending in person. We thought that we had a very good meeting and we appreciate your support and your ideas and suggestions about HEI's current and future work.

I have attached copies of the presentations made during the meeting. I have also attached the paper summarizing the ACES program (Costantini et al., DOI 10.1007/s40825-016-0046-y). Please let me know if you have any questions.

We hope to see you in a couple of months at the HEI Annual Conference. With best wishes,

Rashid

Rashid

Rashid Shaikh, Ph.D.

Director of Science

Health Effects Institute

75 Federal Street, 14<sup>th</sup> Floor

Boston, MA 02110

(617) 488-2301

[rshaikh@healtheffects.org](mailto:rshaikh@healtheffects.org)

[www.healtheffects.org](http://www.healtheffects.org)

# Toyota/JAMA Comments for HEI Sponsor's Meeting

Susan Collet  
Toyota  
March 6, 2017



# Introduction

JAMA/JARI is interested in discussing the following subjects:

1. Gasoline HE study
2. In-vitro study
3. Risk assessment based on DEMS study
4. WHO air quality guideline review
5. Brake/Tire dust
6. Ozone
7. Alzheimer /Parkinson disease
8. Exposure timing on Epidemiology study
9. HEI Report 190 vs. Asthma website findings

# Gasoline HE study

From April, 2017, JAMA/JARI will start to consider a Gasoline HE 4-year study. Need to determine:

- Endpoints
- Target pollutants, such as EC, OC, UFP or NO<sub>2</sub>

What are HEI's plan for this type of study?

## In-vitro Study

- JAMA/JARI have been developing in-vitro evaluation concepts for 5 years.
  - Current target is respiratory inflammation, and will continue this study.
  - It is desirable to share the study results at an HEI conference, (like this year's epidemiology study at the poster session).
- One of the main targets for future study is how to identify the relationship between in-vitro and in-vivo.
- What is HEI's thought of the JAMA/JARI plan?
- What is HEI's study plan?

# Risk assessment based on DEMS study

- What will happen from the DEMS study results?
- What is HEI's perspective?

# WHO air quality guideline review

Is there an update regarding

WHO establishing a black carbon guideline?

# Brake/Tire dust

- The EU Particulate Measurement Programme (PMP) discussion on Brake/Tire dust issues is ongoing.
- In Japan, the measurement method study will start this year.
- Does HEI have any Brake/Tire dust related studies planned?
- What is the AQ impact of Brake/Tire dust in US?

# Ozone

JAMA's understanding from EPA simulations regarding 2025 attainment of ozone NAAQS is:

- Eastern US, like NY, MA, ozone NAAQS will be attained
  - Western US, like CA, ozone NAAQS will not be attained
- Does HEI have any studies related to Eastern vs Western US ozone NAAQS?
  - What are HEI's perspectives?

# Alzheimer /Parkinson disease

- Recently there are increasing study papers relating Alzheimer /Parkinson disease with AQ. Studies include recent new information, such as particle deposition in the brain.
- How does HEI understand these results?
- What are HEI's perspectives on these diseases with regards to AQ related issues?



# Exposure timing on Epidemiology study

One of the issues for epidemiology studies is determining when exposure occurred.

- Study results which show carcinogenesis occurs 20 to 30 years after exposure is famous
- There are results, such as a recent Imperial College study, that show previous air pollution exposure influences inflammation.
- How does HEI understand these effects, especially for lower concentration exposure?
- What is important: accumulated exposure amounts or exposure at a certain time?

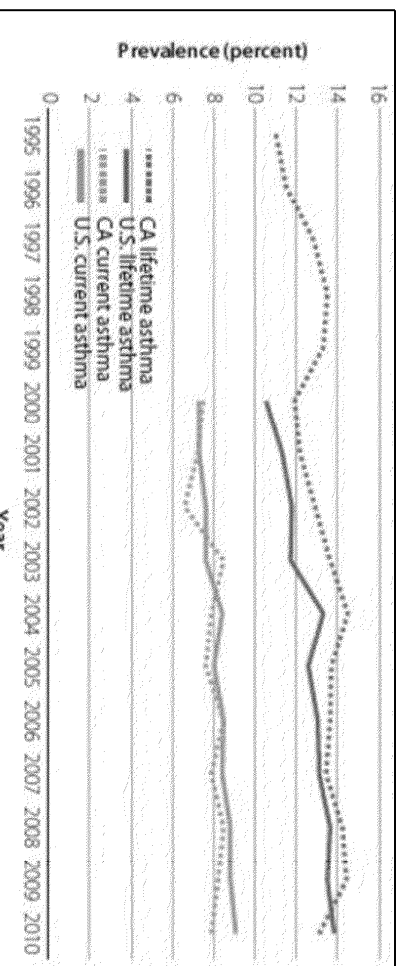
Exposure to air pollution 30 years ago associated with increased risk of Death; by Kate Wightton 09 February 2016 at Imperial College website

Historic air pollution exposure and long-term mortality risks in England and Wales: prospective longitudinal cohort study ; Anna Hansell (Imperial College Healthcare NHS Trust, London, UK), Thorax 2016;71:330–338.

# HEI Study: Effects of Air Quality Improvements on Children's Respiratory Health

- HEI published their accountability program Research Report 190, "The Effects of Policy Driven Air Quality Improvements on Children's Respiratory Health." Results were:
  - As pollutants, particularly NO<sub>2</sub> and PM<sub>2.5</sub>, decreased, the rate of growth of the children's lung function improved.
  - Decreases in levels of NO<sub>2</sub>, PM<sub>2.5</sub>, PM<sub>10</sub>, and O<sub>3</sub> were also associated with decreased prevalence of respiratory symptoms, particularly in children with asthma.
  - Ozone did not change, yet asthma decreased.
- Meanwhile, an US asthma statistics website says: (<http://www.aaaai.org/about-aaaai/newsroom/asthma-statistics>)
  - California & US: Adults with lifetime asthma has increased ~0.2% per year since 1995.
  - CA: For children, current or lifetime asthma prevalence does not change.
- MOE-J study shows AQ is improved, however the rate of children with asthma was not reduced.

How do we reconcile the HEI report and the US asthma statistics website or MOE-J study?



# Summary

JAMA/JARI is interested in discussing the following subjects:

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9. HEI Report 190 vs. Asthma website findings